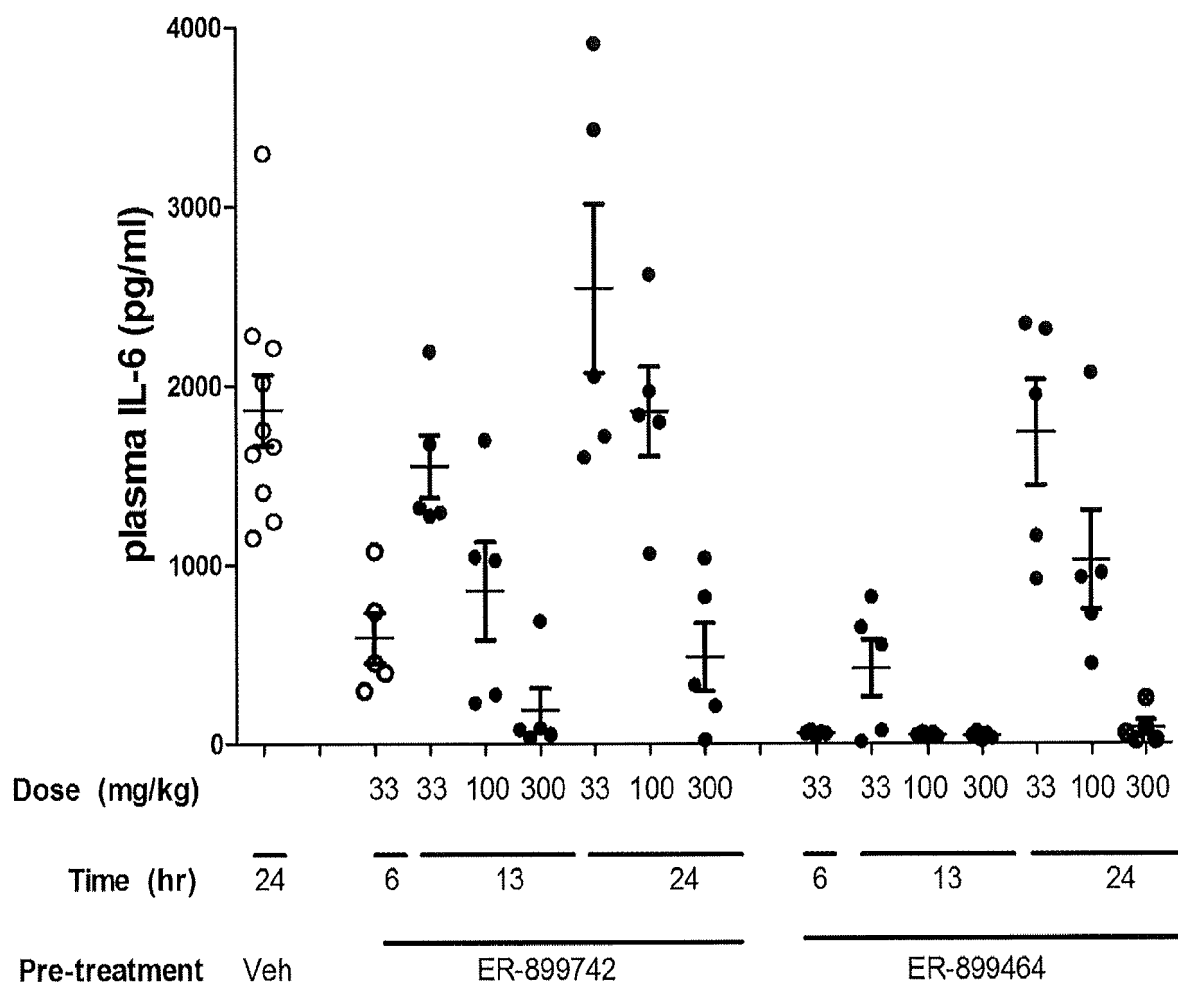


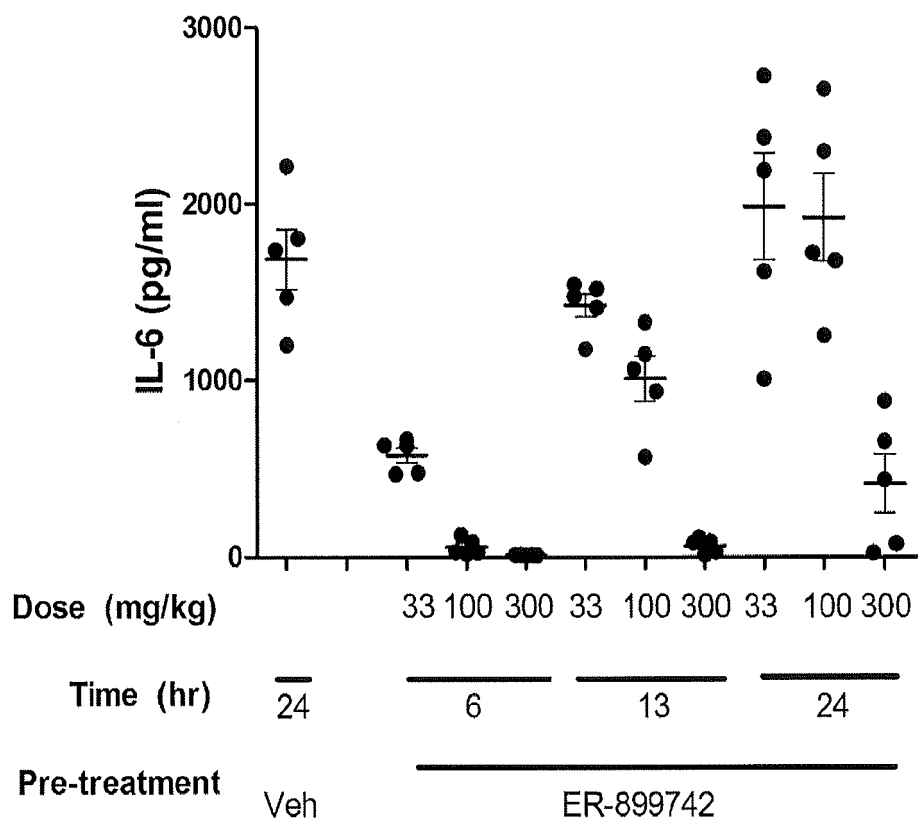
1/111

FIG. 1A



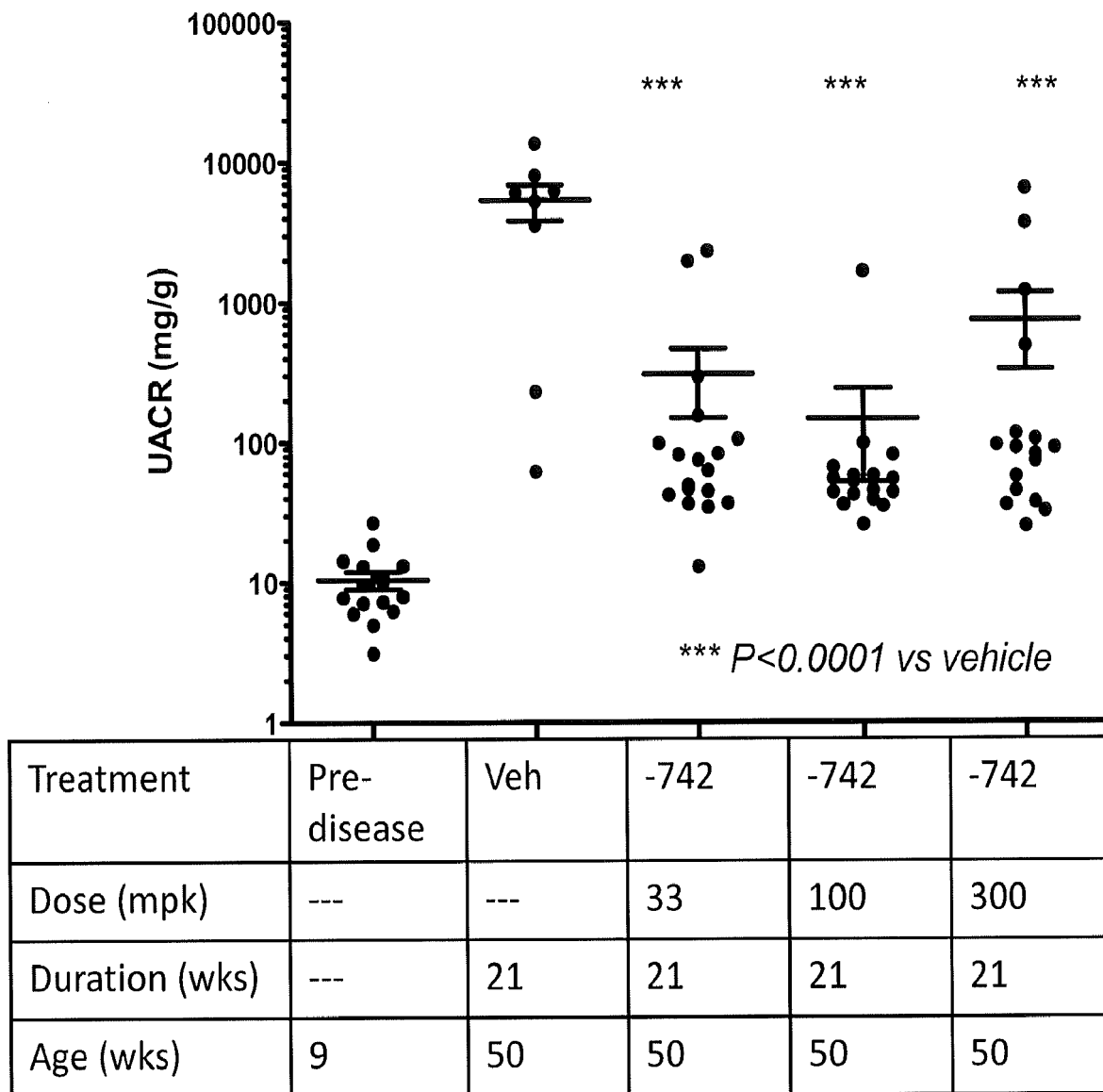
2/111

FIG. 1B



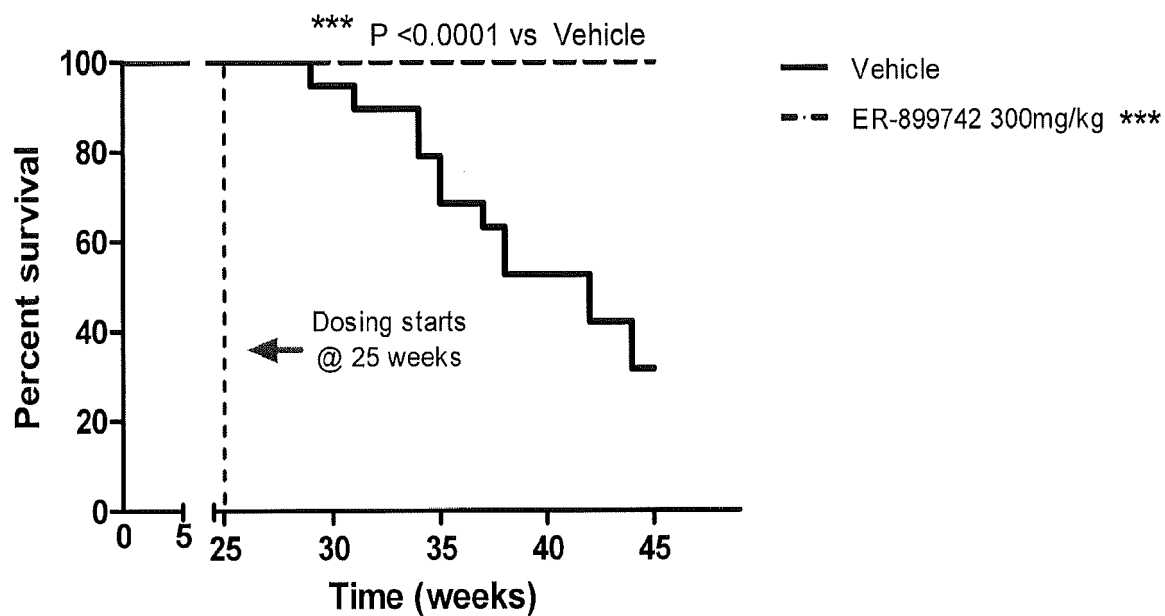
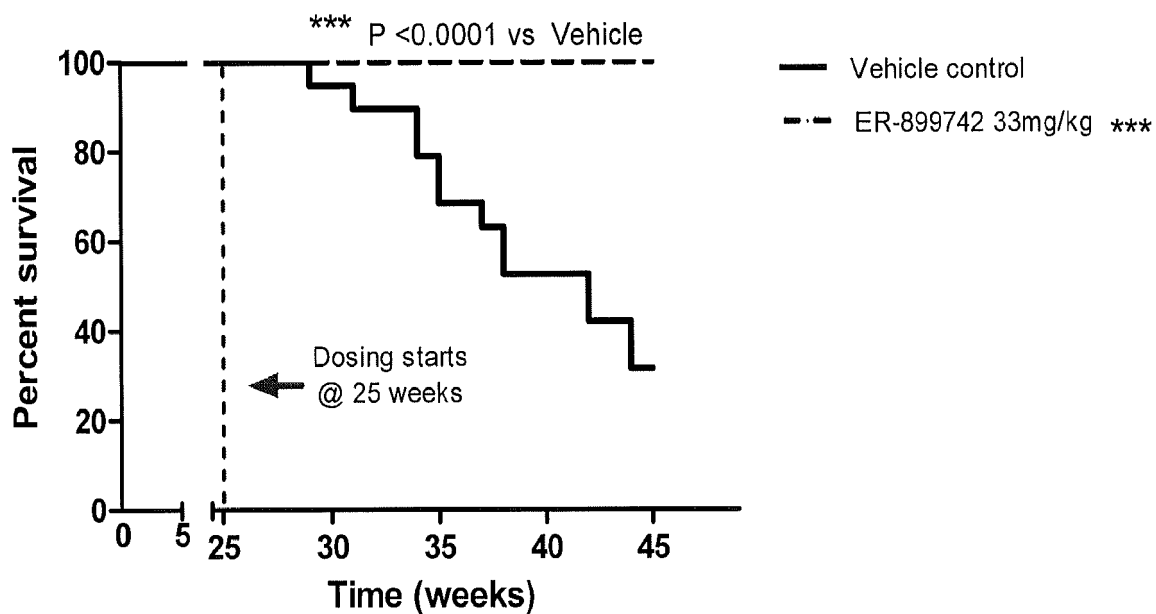
3/111

FIG. 2A



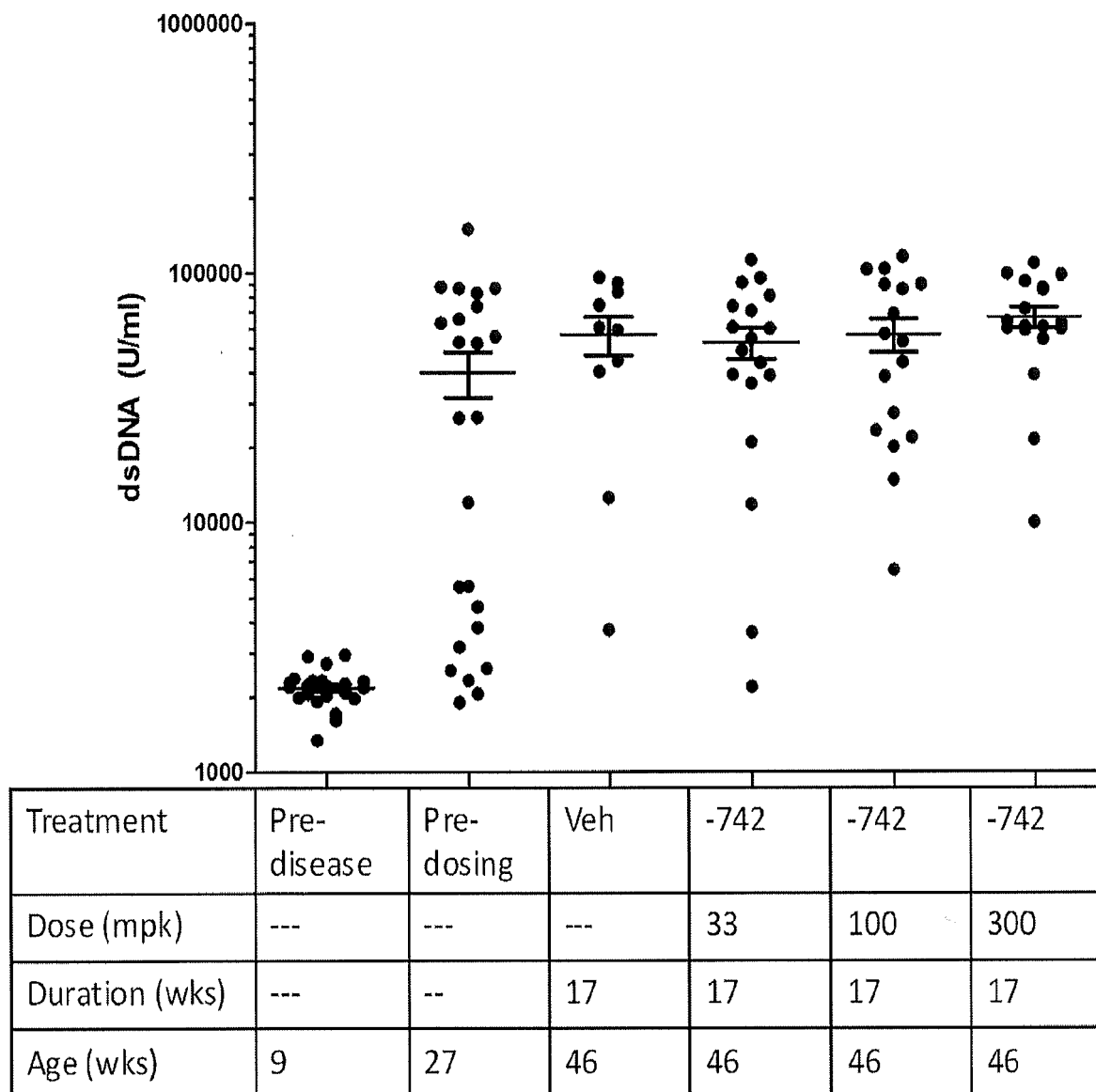
4/111

FIG. 2B



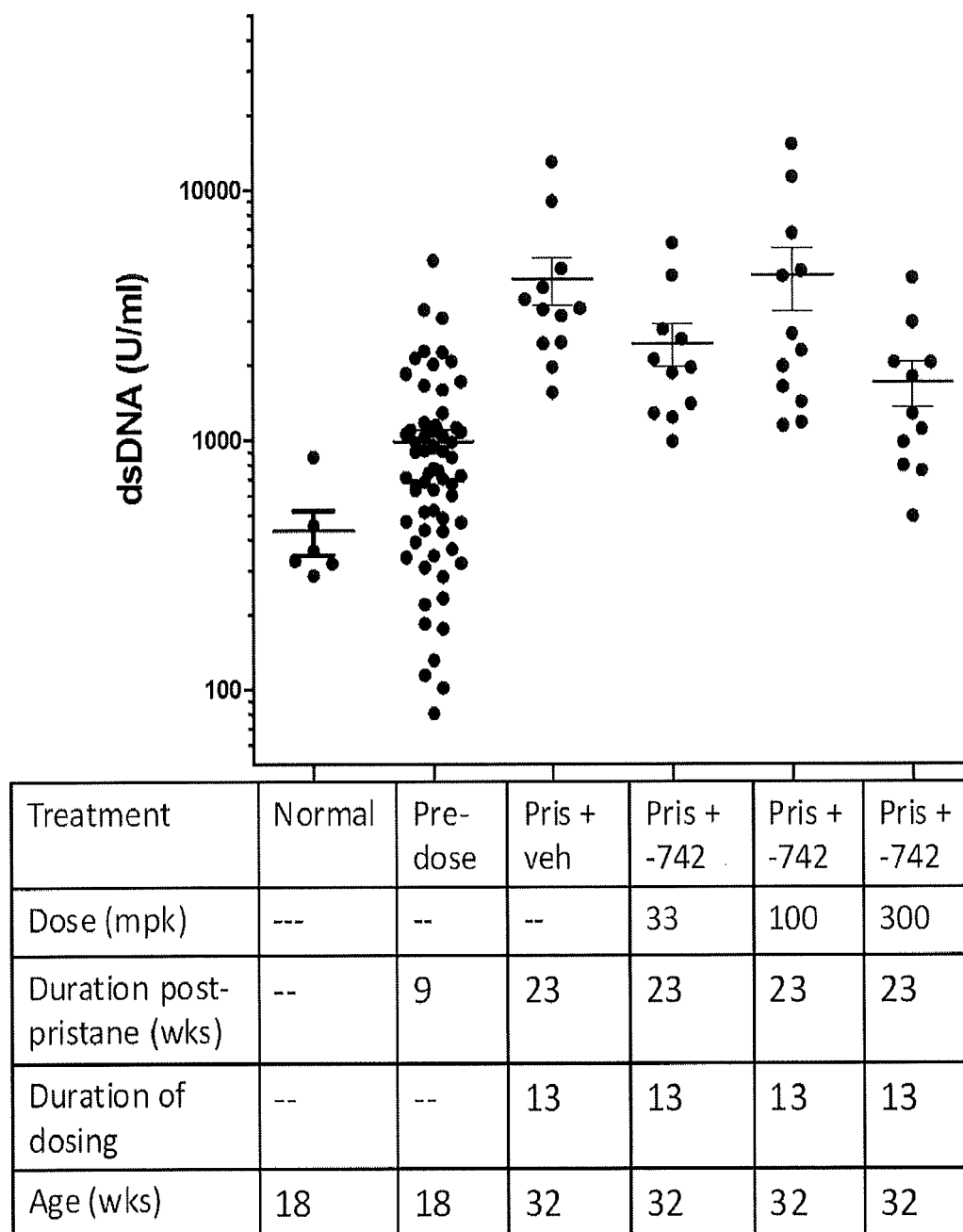
5/111

FIG. 2C



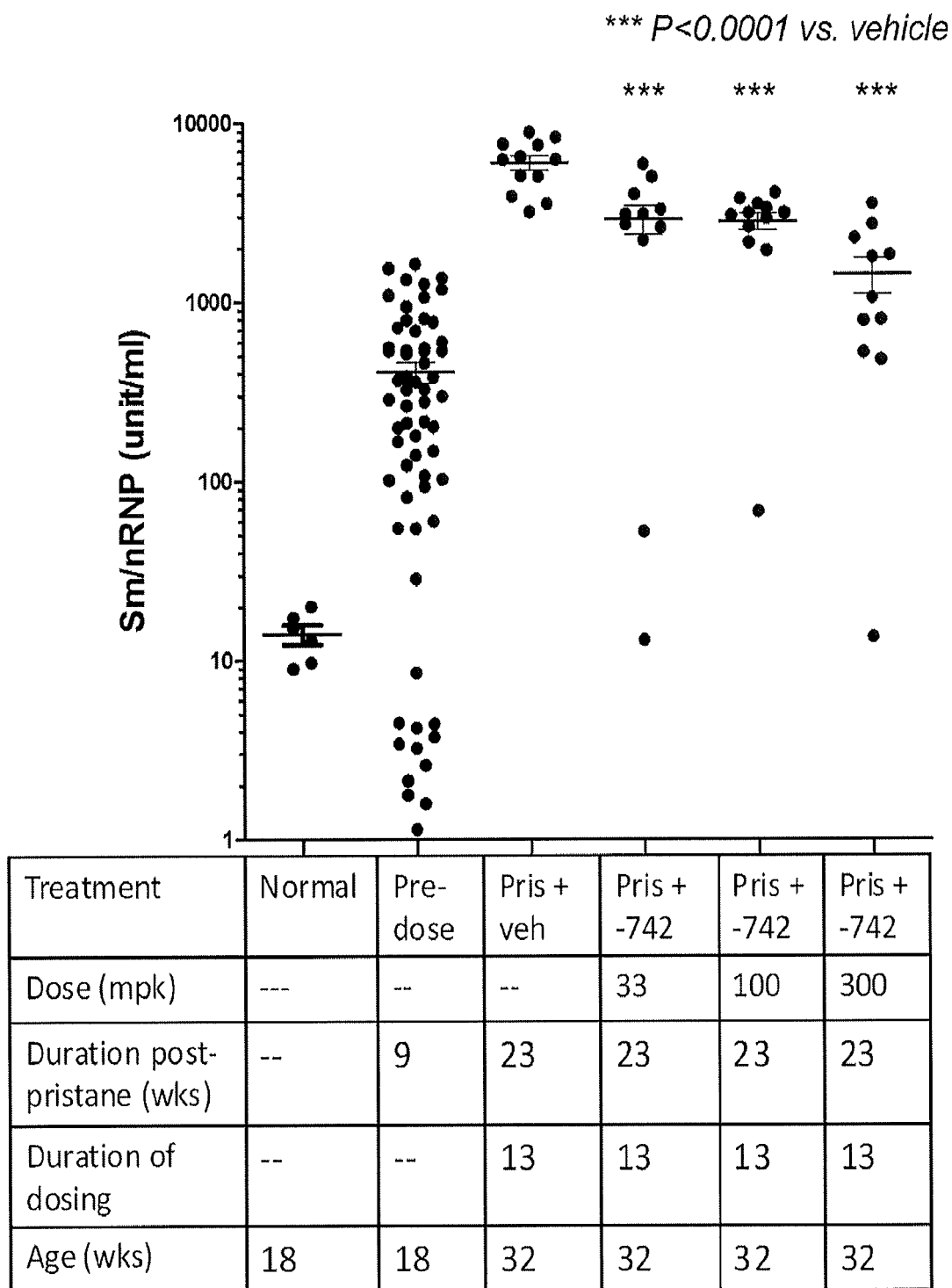
6/111

FIG. 3A



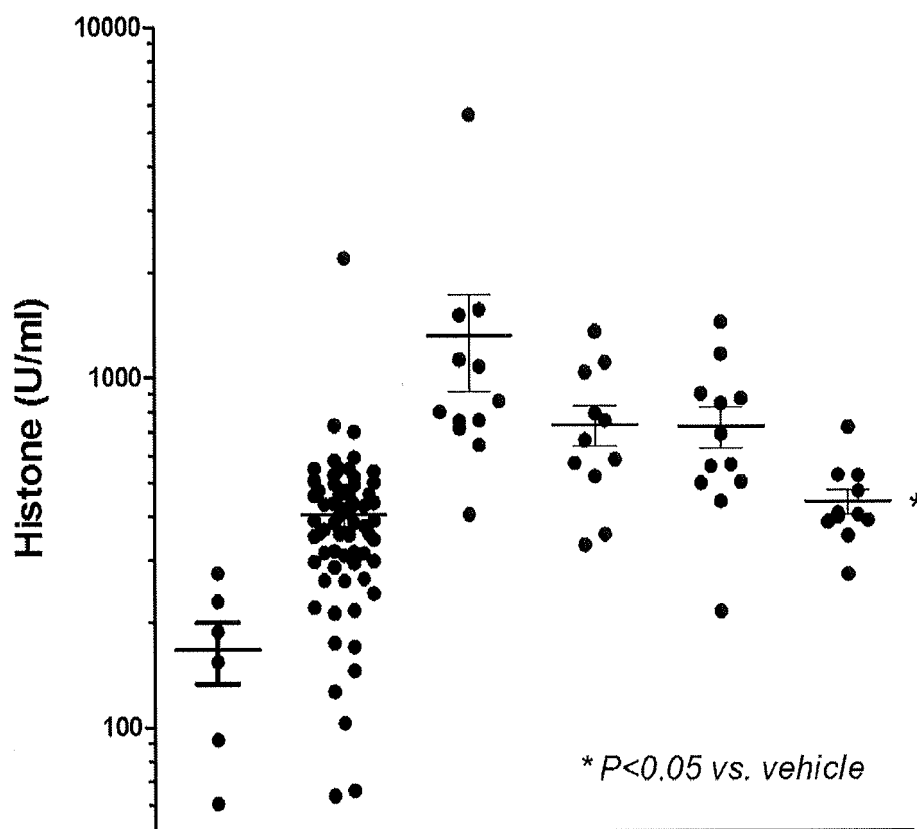
7/111

FIG. 3B



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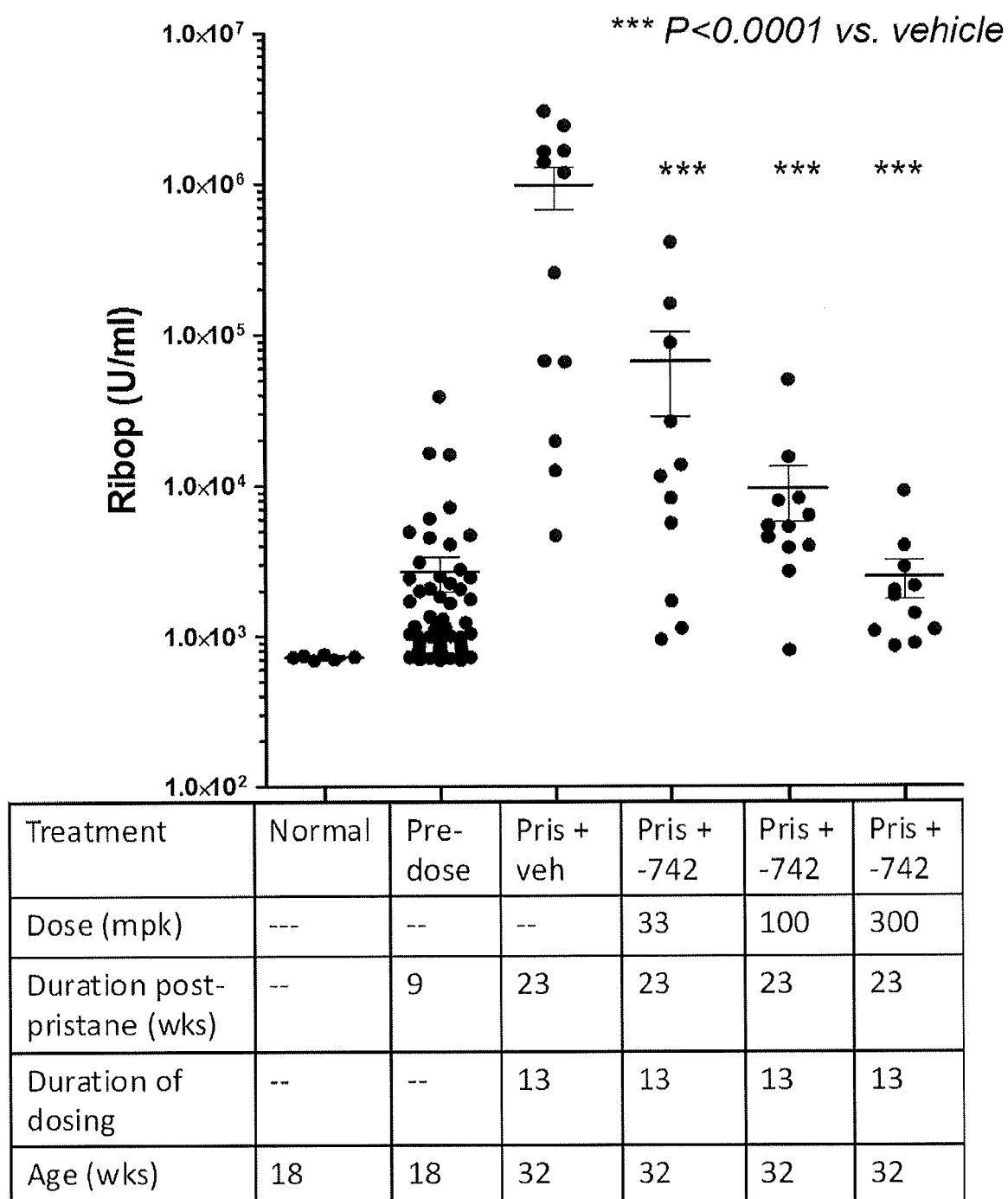
FIG. 3C



|                              |        |          |            |             |             |             |
|------------------------------|--------|----------|------------|-------------|-------------|-------------|
| Treatment                    | Normal | Pre-dose | Pris + veh | Pris + -742 | Pris + -742 | Pris + -742 |
| Dose (mpk)                   | ---    | --       | --         | 33          | 100         | 300         |
| Duration post-pristane (wks) | --     | 9        | 23         | 23          | 23          | 23          |
| Duration of dosing           | --     | --       | 13         | 13          | 13          | 13          |
| Age (wks)                    | 18     | 18       | 32         | 32          | 32          | 32          |

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FIG. 3D



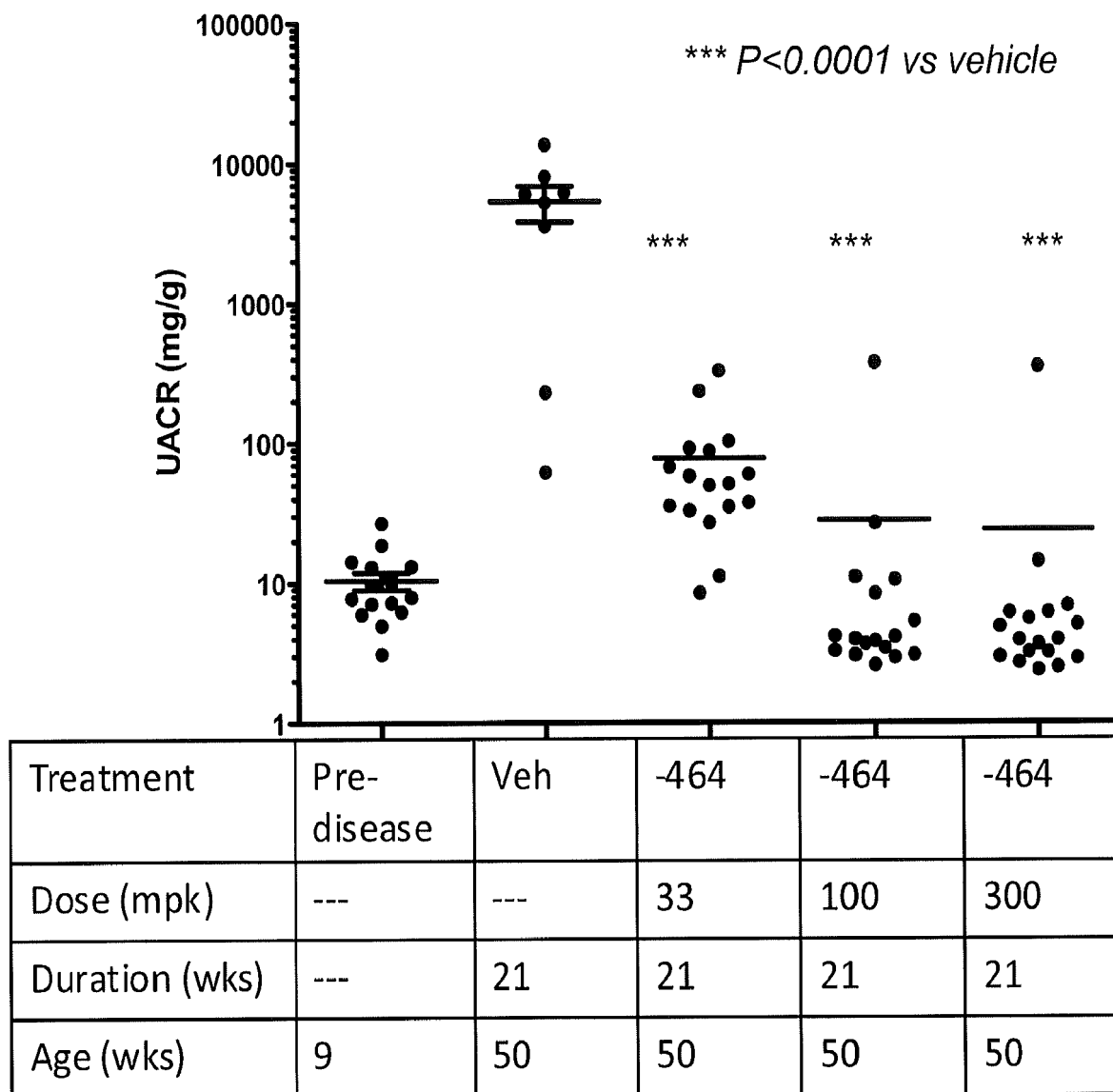
10/111

FIG. 3E

| Gene Number                                                                                                                                | Gene Name |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1                                                                                                                                          | Oas3      |
| 2                                                                                                                                          | Ifi27l2a  |
| 3                                                                                                                                          | Ifi44 *   |
| 4                                                                                                                                          | Oasl2     |
| 5                                                                                                                                          | Irf7 *    |
| 6                                                                                                                                          | Ifit1 *   |
| 7                                                                                                                                          | Cmpk2     |
| 8                                                                                                                                          | Xaf1      |
| 9                                                                                                                                          | Mx1       |
| 10                                                                                                                                         | Fcgr1     |
| 11                                                                                                                                         | Mmp8      |
| 12                                                                                                                                         | Ddx60     |
| 13                                                                                                                                         | Ifi204    |
| 14                                                                                                                                         | Usp18 *   |
| 15                                                                                                                                         | Ifi202b   |
| 16                                                                                                                                         | Siglec1 * |
| 17                                                                                                                                         | Isg15 *   |
| 18                                                                                                                                         | Herc6     |
| 19                                                                                                                                         | Ifit3     |
| 20                                                                                                                                         | Fpr1      |
| 21                                                                                                                                         | Bst2      |
| 22                                                                                                                                         | Cxcl10    |
| 23                                                                                                                                         | Ms4a6c    |
| 24                                                                                                                                         | Mmp9      |
| 25                                                                                                                                         | Ccr2      |
| 26                                                                                                                                         | Cd38      |
| 27                                                                                                                                         | Tlr7      |
| 28                                                                                                                                         | Prf1      |
| 29                                                                                                                                         | C1qa      |
| Twenty nine (29) genes significantly altered between<br>Pristane + Vehicle vs. uninduced PBS control (P<0.05, at<br>least 1.5 fold change) |           |
| * Significantly reduced by ER-899742 vs. vehicle-treated<br>pristane-induced mice (6 genes) (P<0.05, at least 1.5 fold<br>change)          |           |

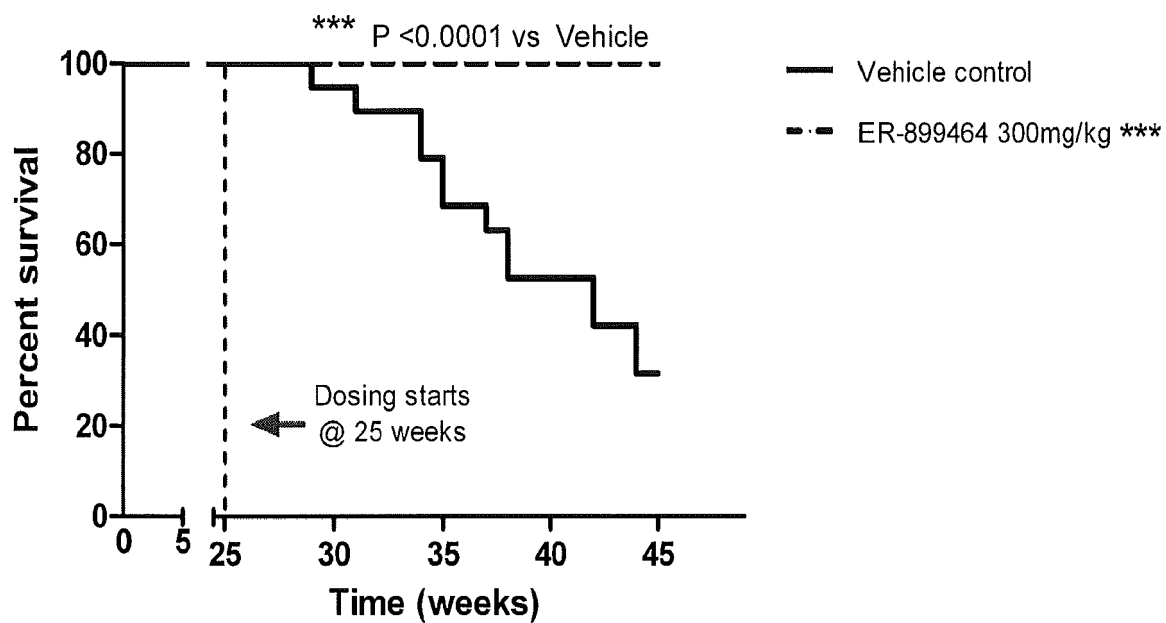
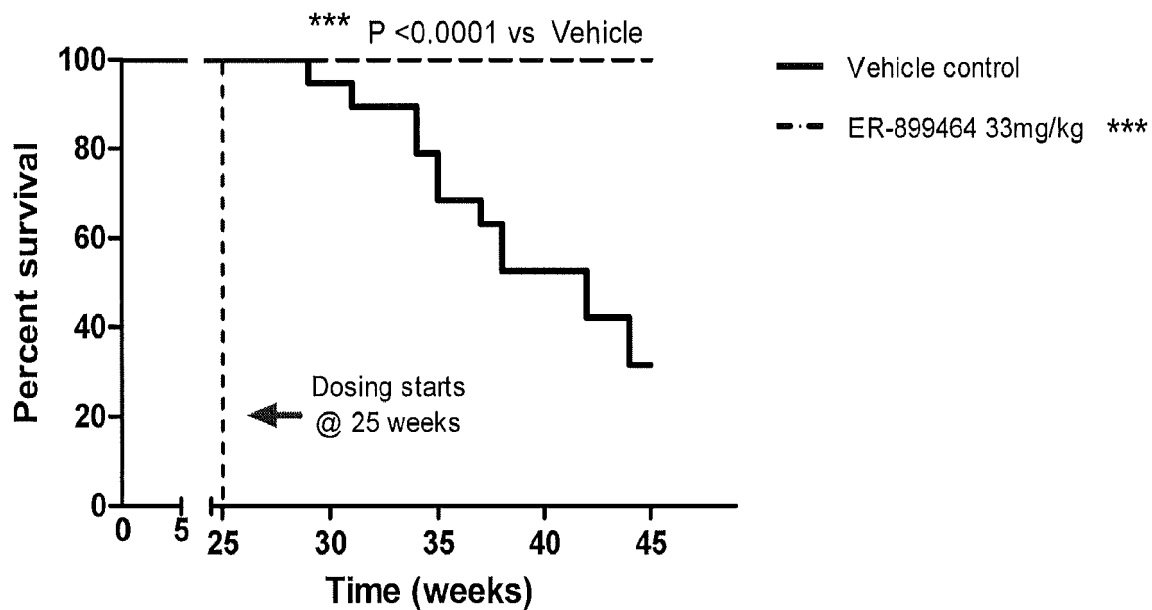
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FIG. 4A



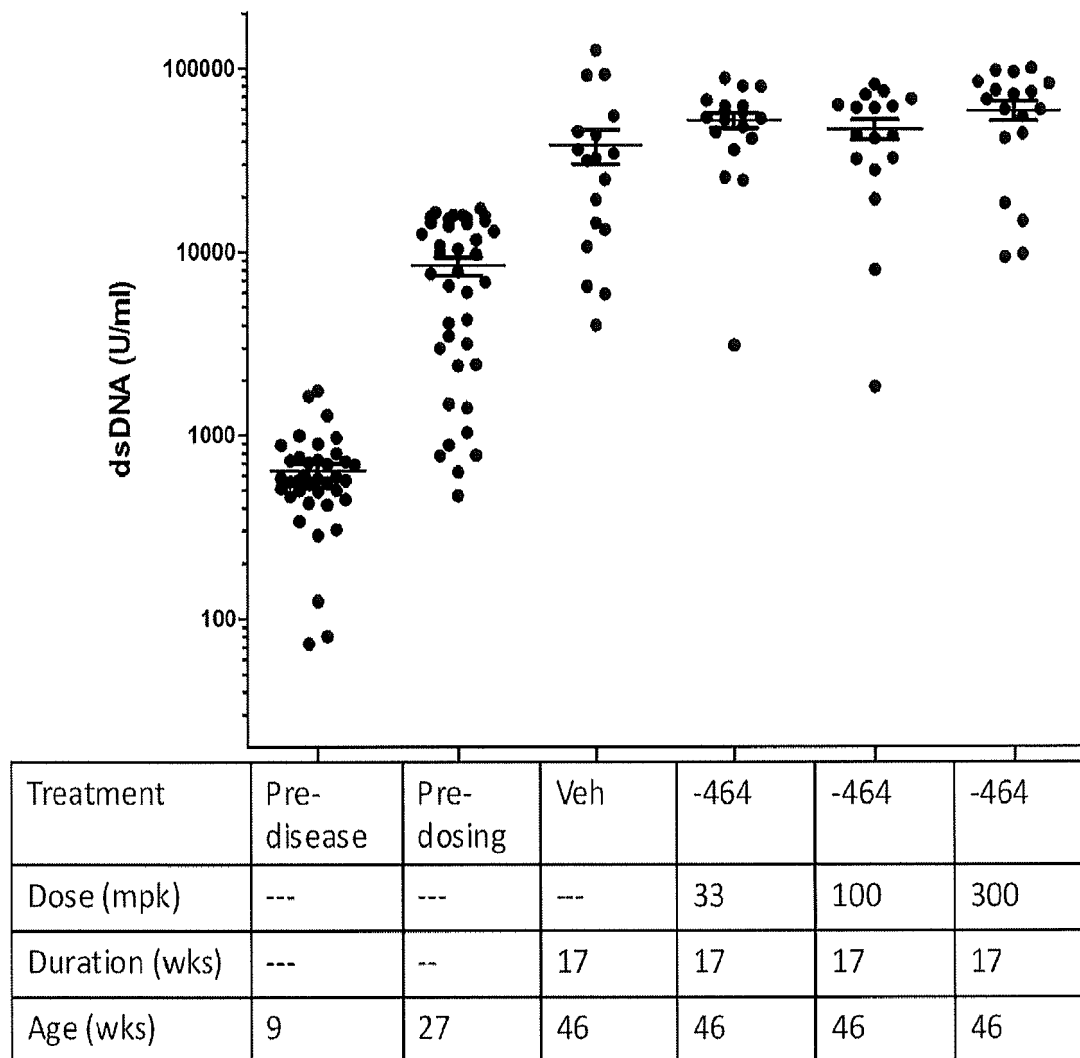
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FIG. 4B



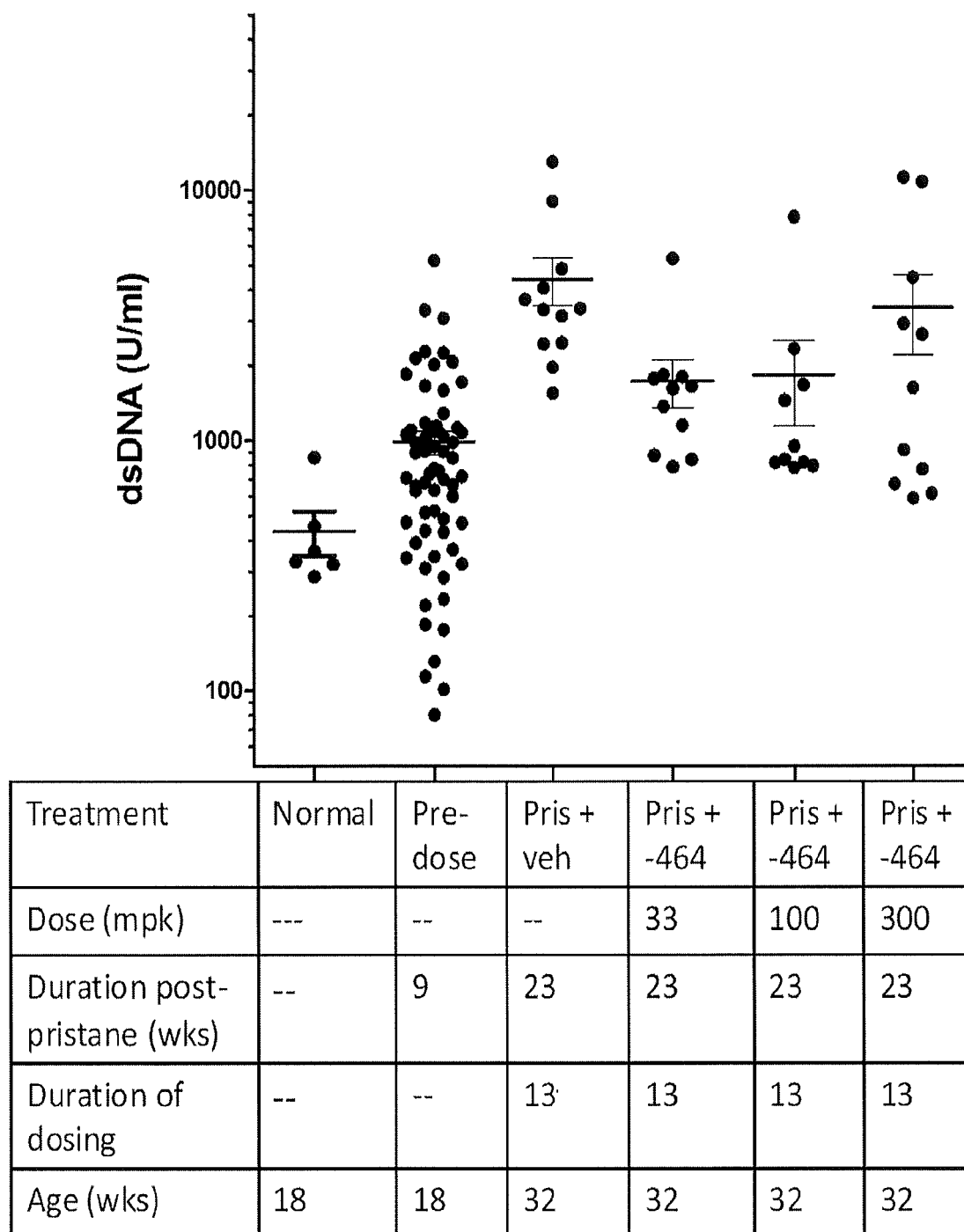
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FIG. 4C



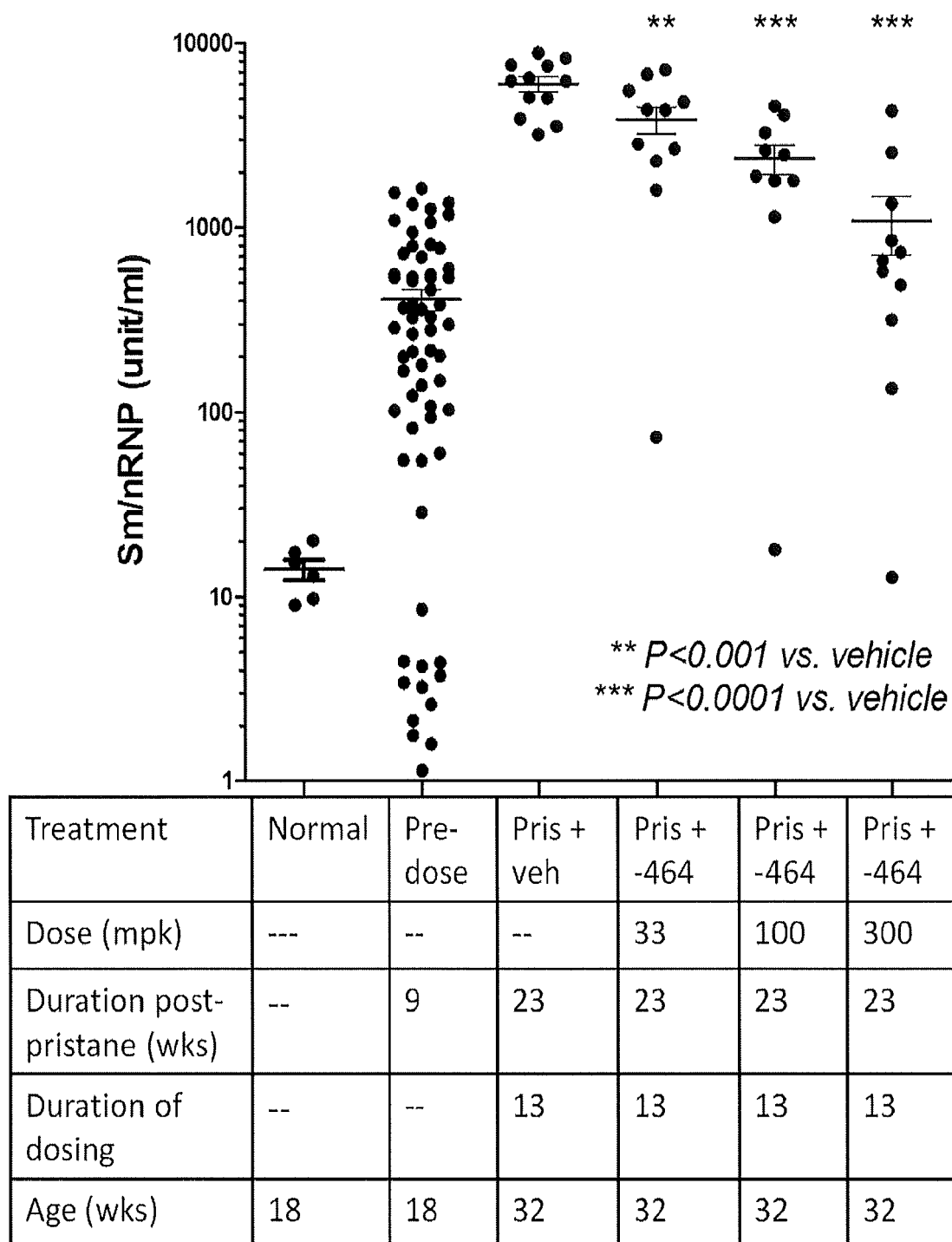
14/111

FIG. 5A



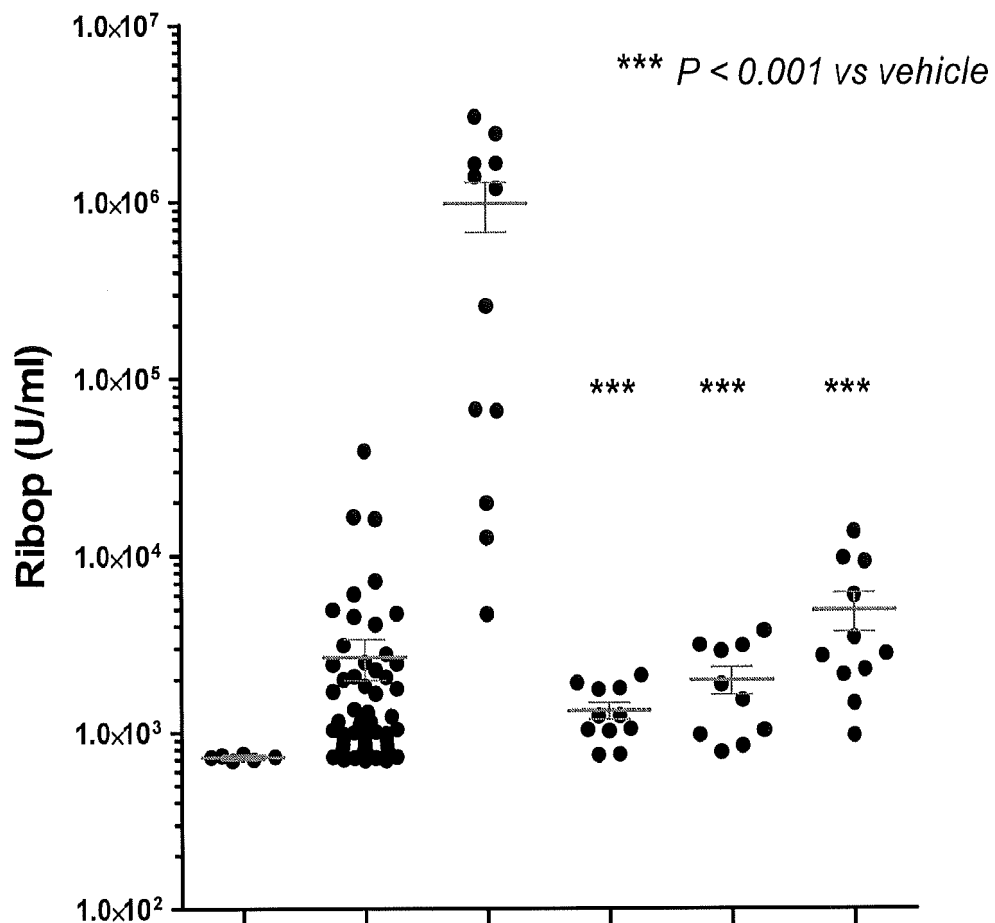
15/111

FIG. 5B



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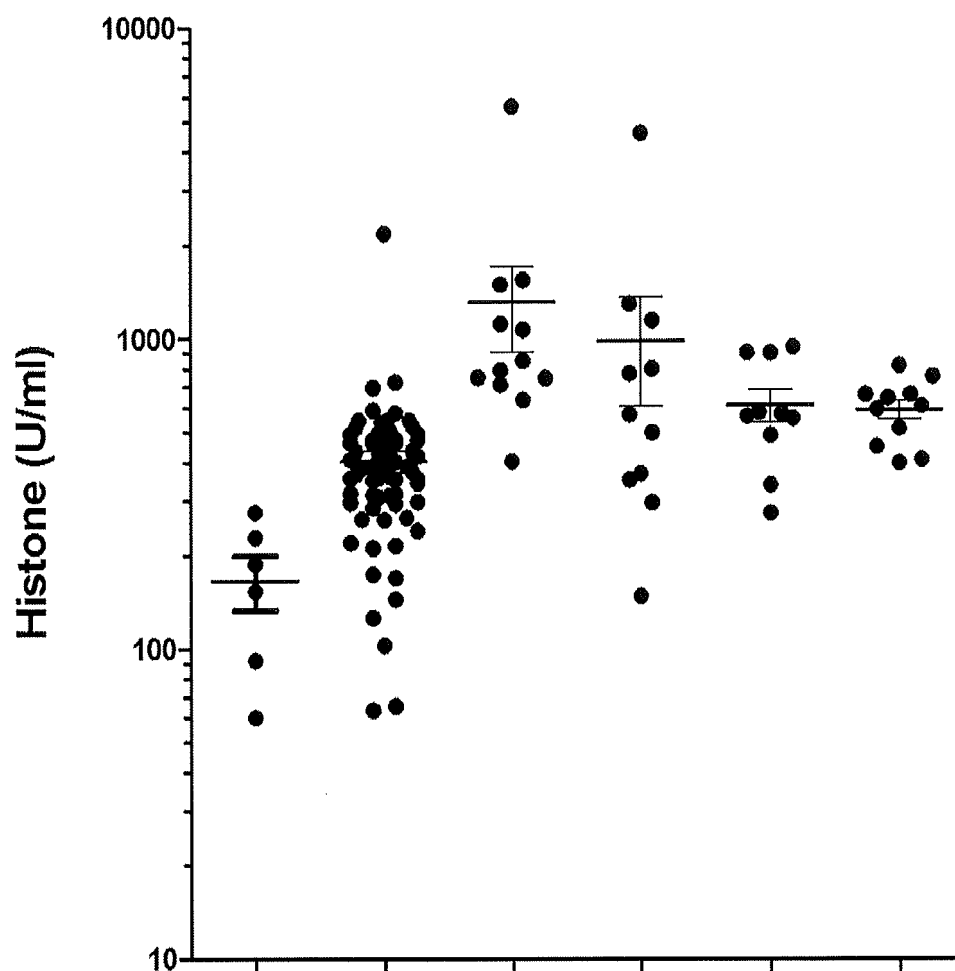
FIG. 5C



| Treatment                    | Normal | Pre-dose | Pris + veh | Pris + -464 | Pris + -464 | Pris + -464 |
|------------------------------|--------|----------|------------|-------------|-------------|-------------|
| Dose (mpk)                   | ---    | --       | --         | 33          | 100         | 300         |
| Duration post-pristane (wks) | --     | 9        | 23         | 23          | 23          | 23          |
| Duration of dosing           | --     | --       | 13         | 13          | 13          | 13          |
| Age (wks)                    | 18     | 18       | 32         | 32          | 32          | 32          |

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FIG. 5D



| Treatment                    | Normal | Pre-dose | Pris + veh | Pris + -464 | Pris + -464 | Pris + -464 |
|------------------------------|--------|----------|------------|-------------|-------------|-------------|
| Dose (mpk)                   | ---    | --       | --         | 33          | 100         | 300         |
| Duration post-pristane (wks) | --     | 9        | 23         | 23          | 23          | 23          |
| Duration of dosing           | --     | --       | 13         | 13          | 13          | 13          |
| Age (wks)                    | 18     | 18       | 32         | 32          | 32          | 32          |

FIG. 6A

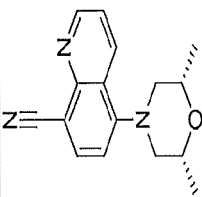
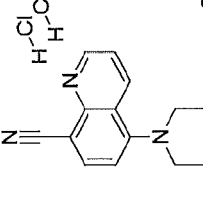
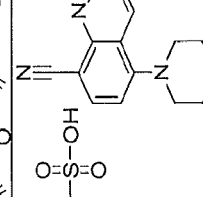
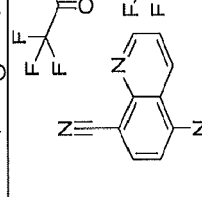
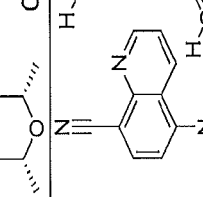
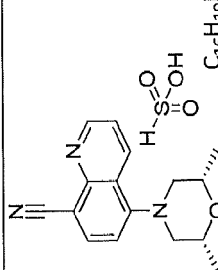
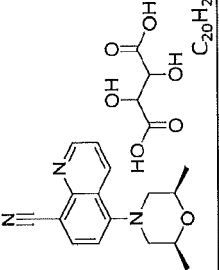
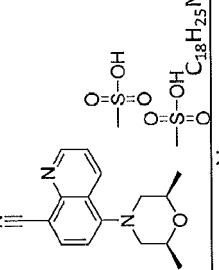
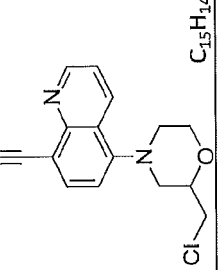
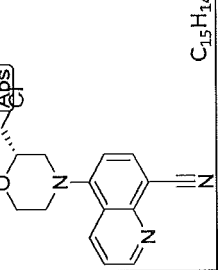
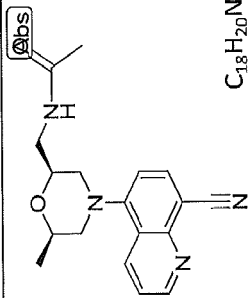
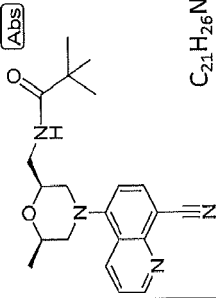
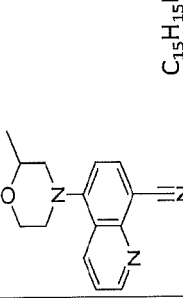
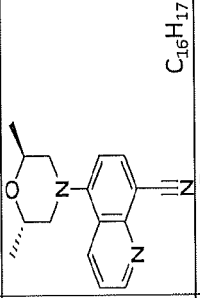
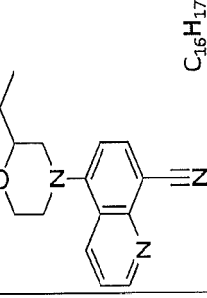
| Number       | Structure                                                                                                          | MW    | HEK<br>/hTLR7<br>IC50<br>( $\mu$ M) | HEK/<br>hTLR9<br>IC50<br>( $\mu$ M) | Chemical Name                                                                          | <sup>1</sup> H-NMR                                                                                                                                                                                                                                                                                                                               | MS                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ER-878952    | <br><chem>C16H17N3O</chem>      | 267.3 | 0.1136                              | >30                                 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile                             | <sup>1</sup> H NMR (400 MHz, methanol-d <sub>4</sub> ) $\delta$ ppm 0.93 (6 H, d) 1.97 - 2.12 (2 H, m) 2.31 - 2.45 (2 H, m) 3.35 - 3.47 (2 H, m) 7.09 - 7.22 (1 H, m) 7.53 - 7.62 (1 H, m) 8.01 - 8.10 (1 H, m) 8.46 - 8.56 (1 H, m) 8.86 - 8.95 (1 H, m),                                                                                       | LCMS (ESI+) calcd for C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O (M+H <sup>+</sup> ) 268.3, found 268.1 |
| ER-878952-02 | <br><chem>C16H19Cl2N3O</chem>   | 340.3 | 0.0738                              | >20                                 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile dihydrochloride             | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) $\delta$ ppm 0.93 (6 H, d) 1.97 - 2.12 (2 H, m) 2.31 - 2.45 (2 H, m) 3.35 - 3.47 (2 H, m) 7.09 - 7.22 (1 H, m) 7.53 - 7.62 (1 H, m) 8.01 - 8.10 (1 H, m) 8.46 - 8.56 (1 H, m) 8.86 - 8.95 (1 H, m)                                                                                        | LCMS (ESI+) calcd for C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O (M+H <sup>+</sup> ) 268.3, found 268.1 |
| ER-878952-13 | <br><chem>C17H21N3O4S</chem>    | 363.4 | 0.1410                              | >20                                 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile methanesulfonate            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) $\delta$ ppm 1.26 (d, J=6.34 Hz, 7 H) 2.84 - 2.98 (m, 14 H) 3.40 - 3.54 (m, 2 H) 4.02 - 4.13 (m, 2 H) 7.42 (d, J=8.54 Hz, 1 H) 8.22 - 8.35 (m, 2 H) 9.27 (d, J=1.22 Hz, 1 H) 9.44 (d, J=4.64 Hz, 1 H) 12.42 (br. s., 2 H)                                                                             |                                                                                                               |
| ER-878952-24 | <br><chem>C20H19F6N3O5</chem>  | 495.4 | 0.0490                              | >20                                 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile bis(2,2,2-trifluoroacetate) | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) $\delta$ ppm 0.94 (d, J=6.45 Hz, 9 H) 1.91 (br. s., 1 H) 2.02 (dd, J=7.32, 3.81 Hz, 3 H) 2.39 (t, J=11.57 Hz, 3 H) 3.38 - 3.43 (m, 3 H) 7.16 (d, J=7.91 Hz, 1 H) 7.57 (dd, J=8.50, 4.39 Hz, 1 H) 8.07 (d, J=8.20 Hz, 1 H) 8.52 (dd, J=8.64, 1.61 Hz, 1 H) 8.91 (dd, J=4.39, 1.76 Hz, 1 H) |                                                                                                               |
| ER-878952-25 | <br><chem>C16H21N3O7S2</chem> | 431.5 | 0.1200                              | >20                                 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile bis(sulfonate)              | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) $\delta$ ppm 1.09 (d, J=6.15 Hz, 8 H) 2.52 (t, J=11.13 Hz, 3 H) 3.26 - 3.30 (m, 5 H) 3.86 - 3.95 (m, 3 H) 7.16 (d, J=8.20 Hz, 1 H) 7.62 (ddd, J=8.50, 4.10, 1.17 Hz, 1 H) 8.19 (dd, J=7.91, 1.17 Hz, 1 H) 8.51 (dd, J=8.64, 1.32 Hz, 1 H) 8.99 (dt, J=2.71, 1.43 Hz, 1 H)                     |                                                                                                               |

FIG. 6B

|              |                                                                                       |       |        |     |                                                                                   |                                                                                                                                                                                                                                                                                                |
|--------------|---------------------------------------------------------------------------------------|-------|--------|-----|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-878952-26 |    | 349.4 | 0.0880 | >20 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile sulfonate              | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) δ ppm 1.04 - 1.25 (m, 17 H) 2.44 - 2.67 (m, 8 H) 3.30 (s, 3 H) 3.27 (s, 3 H) 3.82 - 4.09 (m, 7 H) 7.12 - 7.31 (m, 3 H) 7.56 - 7.75 (m, 3 H) 8.09 - 8.33 (m, 3 H) 8.49 - 8.74 (m, 4 H) 8.98 (ddd, J=4.32, 3.00, 1.76 Hz, 20 H) 9.09 (m, 1 H) |
| ER-87895227  |    | 417.4 | 0.1250 | >20 | 5-((2S,6R)-2,6-dimethylmorpholino)quinoline-8-carbonitrile 2,3-dihydroxysuccinate |                                                                                                                                                                                                                                                                                                |
| ER-878952-28 |    | 459.5 | 0.1040 | >20 | 5-((2S,6R)-2,6-dimethylmorpholino)quinoline-8-carbonitrile dimethanesulfonate     |                                                                                                                                                                                                                                                                                                |
| ER-879484    |   | 287.7 | 0.3435 | >20 | 5-(2-(chloromethyl)morpholino)quinoline-8-carbonitrile                            | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.20 (d, J=6.15 Hz, 1 H) 3.31 (s, 1 H) 3.64 (dd, J=5.57, 0.88 Hz, 2 H) 4.00 - 4.08 (m, 3 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.09 - 8.14 (m, 2 H)                                                                                  |
| ER-879570    |  | 287.7 | 0.2230 | >20 | (S)-5-(2-(chloromethyl)morpholino)quinoline-8-carbonitrile                        |                                                                                                                                                                                                                                                                                                |

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FIG. 6C

|           |                                                                                       |       |        |     |                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-----|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| ER-879689 |    | 324.4 | 0.3400 | >20 | N-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)acetamide  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.81 (br. s., 1 H) 1.23 - 1.28 (m, 5 H) 1.54 (s, 4 H) 2.02 - 2.06 (m, 4 H) 2.61 (s, 1 H) 2.63 (s, 1 H) 2.66 (s, 1 H) 2.69 (s, 1 H) 3.17 - 3.24 (m, 2 H) 3.26 - 3.28 (m, 1 H) 3.30 (s, 1 H) 3.60 - 3.66 (m, 1 H) 3.96 - 4.04 (m, 2 H) 5.89 (br. s., 1 H) 7.05 (d, J=7.91 Hz, 1 H) 7.24 (d, J=0.59 Hz, 4 H) 7.50 (dd, J=8.50, 4.39 Hz, 1 H) 8.01 (s, 1 H) 8.03 (s, 1 H) 8.41 (dd, J=8.50, 1.76 Hz, 1 H) 9.05 - 9.07 (m, 1 H) |  |
| ER-879713 |    | 366.5 | 0.0920 | >20 | N-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pivalamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.21 - 1.28 (m, 13 H) 2.03 - 2.11 (m, 1 H) 2.49 - 2.54 (m, 1 H) 2.60 - 2.67 (m, 2 H) 2.87 - 2.91 (m, 2 H) 3.19 - 3.33 (m, 3 H) 3.43 - 3.47 (m, 1 H) 3.60 - 3.67 (m, 1 H) 3.98 - 4.05 (m, 2 H) 6.27 (br. s., 1 H) 7.05 (d, J=7.91 Hz, 1 H) 7.23 - 7.26 (m, 2 H) 7.52 (dd, J=8.50, 4.39 Hz, 1 H) 8.03 (d, J=7.91 Hz, 1 H) 8.44 (dd, J=8.50, 1.46 Hz, 1 H) 9.07 (dd, J=4.39, 1.76 Hz, 1 H)                                    |  |
| ER-879739 |    | 253.3 | 0.2750 | >20 | 5-(2-methylmorpholino)quinoline-8-carbonitrile                                | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm 1.16 - 1.21 (m, 4 H) 2.67 (dd, J=12.01, 9.96 Hz, 1 H) 2.94 - 3.02 (m, 1 H) 3.29 - 3.36 (m, 2 H) 3.93 - 4.01 (m, 4 H) 7.21 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.11 (d, J=7.91 Hz, 1 H) 8.63 (dd, J=8.64, 1.61 Hz, 1 H) 8.94 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                                                      |  |
| ER-880191 |   | 267.3 | 0.3095 | >20 | 5-((2S,6S)-2,6-dimethylmorpholino)quinoline-8-carbonitrile                    | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm 1.20 (d, J=6.15 Hz, 8 H) 1.38 (d, J=6.45 Hz, 1 H) 2.55 - 2.64 (m, 3 H) 3.29 - 3.36 (m, 3 H) 3.97 - 4.06 (m, 2 H) 7.18 - 7.22 (m, 1 H) 7.62 (dd, J=8.50, 4.39 Hz, 1 H) 8.09 - 8.13 (m, 1 H) 8.64 (dd, J=8.64, 1.61 Hz, 1 H) 8.94 (dd, J=4.39, 1.46 Hz, 1 H)                                                                                                                                                                  |  |
| ER-880639 |  | 276.3 | 0.3490 | >20 | 5-(2-ethylmorpholino)quinoline-8-carbonitrile                                 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.00 (t, J=7.47 Hz, 3 H) 1.46 - 1.67 (m, 2 H) 2.05 (br. s., 4 H) 2.70 - 2.74 (m, 1 H) 3.03 (td, J=11.57, 3.22 Hz, 1 H) 3.21 - 3.31 (m, 2 H) 3.69 - 3.76 (m, 1 H) 3.96 (td, J=11.35, 2.49 Hz, 1 H) 4.04 - 4.09 (m, 1 H) 7.07 (d, J=7.91 Hz, 1 H) 7.50 (dd, J=8.50, 4.10 Hz, 1 H) 8.03 (d, J=7.91 Hz, 1 H) 8.46 (dd, J=8.50, 1.76 Hz, 1 H) 9.06 (dd, J=4.10, 1.76 Hz, 1 H)                                                   |  |

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FIG. 6D

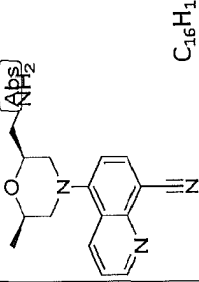
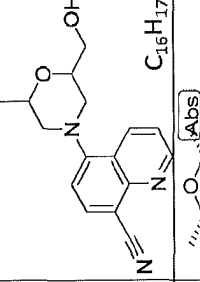
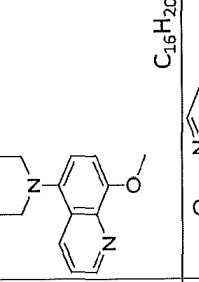
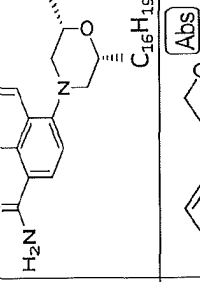
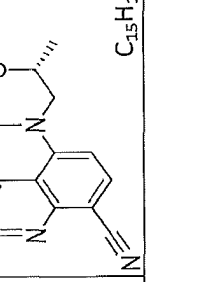
|           |                                                                                                                                                       |       |        |     |                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ER-884884 | <br>C <sub>16</sub> H <sub>18</sub> N <sub>4</sub> O               | 282.3 | 0.3060 | >20 | 5-((2S,6R)-2-(aminomethyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (d, J=6.15 Hz, 11 H) 2.63 - 2.67 (m, 2 H) 2.69 - 2.74 (m, 2 H) 2.97 (d, J=13.48 Hz, 1 H) 3.15 (s, 1 H) 3.18 (s, 1 H) 3.41 (s, 3 H) 3.37 (s, 3 H) 4.81 - 4.85 (m, 53 H) 7.24 (d, J=8.20 Hz, 3 H) 7.60 - 7.63 (m, 2 H) 8.12 (s, 1 H) 8.14 (s, 1 H) 8.60 (d, J=1.46 Hz, 1 H) 8.62 (d, J=1.46 Hz, 1 H) 8.96 (dd, J=4.10, 1.76 Hz, 2 H) |                                                                                                               |
| ER-885047 | <br>C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>3</sub>  | 283.3 | 0.9558 | >20 | 5-(2-(hydroxymethyl)-6-methylmorpholino)quinoline-8-carbonitrile       |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                               |
| ER-885113 | <br>C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>2</sub>  | 272.4 | 0.5285 | >20 | (2R,6S)-4-(8-methoxyquinolin-5-yl)-2,6-dimethylmorpholine              |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                               |
| ER-885160 | <br>C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub> | 285.3 | 2.1600 | >20 | 5-((2R,6S)-2,6-dimethylmorpholino)quinoline-8-carboxamide              | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.21 (6 H, d) 2.63 - 2.81 (2 H, m) 3.34 - 3.48 (2 H, m) 3.95 - 4.12 (2 H, m) 7.34 - 7.48 (1 H, m) 7.91 - 8.02 (1 H, m) 8.49 - 8.67 (1 H, m) 9.08 - 9.18 (1 H, m) 9.18 - 9.27 (1 H, m)                                                                                                                                                   | LCMS (ESI+) calcd for C <sub>16</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub> (M+H+) 286.3, found 286.3 |
| ER-885211 | <br>C <sub>15</sub> H <sub>15</sub> N <sub>3</sub> O             | 253.3 | 0.0420 | >20 | (R)-5-(2-methylmorpholino)quinoline-8-carbonitrile                     |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                               |

FIG. 6E

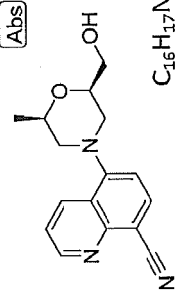
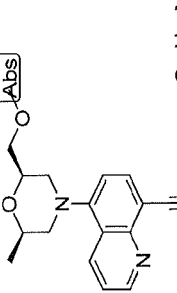
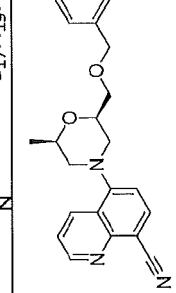
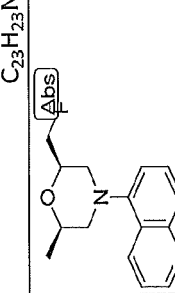
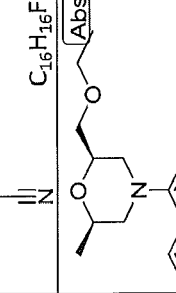
|           |                                                                                                                                                       |       |        |     |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| ER-885493 | <br>C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>2</sub>  | 283.3 | 0.1043 | >20 | 5-((2R,6R)-2-(hydroxymethyl)-6-methylmorpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.21 (3 H, d) 2.58 - 2.66 (1 H, m) 2.67 - 2.75 (1 H, m) 3.30 - 3.37 (1 H, m) 3.38 - 3.44 (1 H, m) 3.53 (1 H, dd) 3.63 (1 H, dd) 3.91 - 3.98 (1 H, m) 4.00 - 4.08 (1 H, m) 7.15 - 7.25 (1 H, m) 7.56 - 7.65 (1 H, m) 8.07 - 8.15 (1 H, m) 8.56 - 8.68 (1 H, m) 8.88 - 8.96 (1 H, m)                                                                                                                                              | LCMS (ESI+) calcd for C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 284.3, found 284.3 |
| ER-885612 | <br>C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub>  | 373.5 | 0.2750 | >20 | 5-((2R,6R)-2-(methoxymethyl)-6-methylmorpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (3 H, d) 2.62 (1 H, t) 2.82 (1 H, t) 3.30 - 3.41 (2 H, m) 3.99 - 4.27 (2 H, m) 4.41 (1 H, d) 4.53 (1 H, d) 7.18 - 7.32 (1 H, m) 7.62 (1 H, dd) 8.12 (1 H, d) 8.64 (1 H, dd) 8.89 - 8.99 (1 H, m)                                                                                                                                                                                                                           | LCMS (ESI+) calcd for C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 286.3, found 286.3 |
| ER-885618 | <br>C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub>  | 373.5 | 0.0270 | >20 | 5-((2R,6R)-2-(benzyloxymethyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.21 (d, J=6.45 Hz, 4 H) 2.59 - 2.63 (m, 1 H) 2.65 (s, 1 H) 2.70 - 2.76 (m, 1 H) 3.30 - 3.43 (m, 3 H) 3.50 - 3.54 (m, 1 H) 3.58 - 3.63 (m, 1 H) 4.01 - 4.06 (m, 1 H) 4.08 - 4.13 (m, 1 H) 4.54 (s, 2 H) 4.82 - 4.87 (m, 7 H) 7.18 - 7.32 (m, 5 H) 7.57 - 7.61 (m, 1 H) 8.11 (d, J=7.91 Hz, 1 H) 8.58 - 8.62 (m, 1 H) 8.92 - 8.94 (m, 1 H)                                                                                       |                                                                                                                            |
| ER-885621 | <br>C <sub>23</sub> H <sub>23</sub> N <sub>3</sub> O <sub>2</sub>  | 285.3 | 0.1800 | >20 | 5-((2R,6R)-2-(fluoromethyl)-6-methylmorpholino)quinoline-8-carbonitrile    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |
| ER-885807 | <br>C <sub>18</sub> H <sub>21</sub> N <sub>3</sub> O <sub>2</sub> | 311.4 | 0.1560 | >20 | 5-((2R,6R)-2-(ethoxymethyl)-6-methylmorpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.20 (t, J=7.03 Hz, 3 H) 1.26 (d, J=6.45 Hz, 3 H) 2.00 (s, 1 H) 2.68 (s, 1 H) 2.71 (d, J=1.46 Hz, 1 H) 2.74 (s, 1 H) 2.78 (s, 1 H) 2.81 (s, 1 H) 2.84 (s, 1 H) 3.27 (d, J=12.01 Hz, 1 H) 3.38 (d, J=11.72 Hz, 1 H) 3.49 - 3.64 (m, 4 H) 4.02 - 4.14 (m, 2 H) 5.77 (br. s., 1 H) 7.14 (d, J=8.20 Hz, 1 H) 7.24 - 7.25 (m, 2 H) 7.64 (dd, J=8.50, 4.39 Hz, 1 H) 8.09 (d, J=8.20 Hz, 1 H) 8.61 (dd, J=8.50, 1.46 Hz, 1 H) 9.13 - 9.15 (m, 1 H) |                                                                                                                            |

FIG. 6F

|           |                                                                          |       |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|--------------------------------------------------------------------------|-------|--------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-885808 | <br><chem>CC(C)OCCN1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{19}H_{23}N_3O_2$  | 325.4 | 0.0880 | >20 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.15 (dd, J=7.91, 6.15 Hz, 6 H) 1.25 (d, J=6.15 Hz, 3 H) 2.65 (s, 1 H) 2.68 (d, J=1.46 Hz, 1 H) 2.70 - 2.73 (m, 1 H) 2.76 (s, 1 H) 3.25 (s, 1 H) 3.28 (s, 1 H) 3.41 - 3.47 (m, 2 H) 3.59 - 3.66 (m, 3 H) 4.01 - 4.08 (m, 1 H) 7.10 (d, J=7.91 Hz, 1 H) 7.24 - 7.24 (m, 4 H) 7.54 - 7.57 (m, 1 H) 8.04 (s, 1 H) 8.06 (s, 1 H) 8.52 (dd, J=8.50, 1.76 Hz, 1 H) 9.09 (dd, J=4.10, 1.76 Hz, 1 H)                                      |
| ER-885892 | <br><chem>CC(C)COC1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{19}H_{23}N_3O_2$   | 339.4 | 0.0740 | >20 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.87 (d, J=6.74 Hz, 7 H) 1.25 (d, J=6.15 Hz, 4 H) 1.68 (s, 21 H) 1.81 - 1.88 (m, 1 H) 2.63 - 2.66 (m, 1 H) 2.69 - 2.74 (m, 1 H) 3.19 - 3.28 (m, 4 H) 3.41 - 3.48 (m, 3 H) 3.59 (dd, J=9.96, 4.98 Hz, 1 H) 7.05 (s, 1 H) 7.07 (s, 1 H) 7.24 (s, 6 H) 7.48 - 7.51 (m, 1 H) 8.02 (s, 1 H) 8.04 (s, 1 H) 8.45 (d, J=1.76 Hz, 1 H) 8.47 (d, J=1.76 Hz, 1 H) 9.06 (dd, J=4.39, 1.76 Hz, 1 H)                                            |
| ER-885906 | <br><chem>CC1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{20}H_{25}N_3O_2$         | 301.8 | 0.1980 | >20 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.27 (d, J=6.15 Hz, 7 H) 1.60 (s, 83 H) 2.67 - 2.75 (m, 2 H) 3.48 (s, 1 H) 3.51 - 3.53 (m, 2 H) 3.64 (d, J=4.69 Hz, 1 H) 7.09 (d, J=8.20 Hz, 1 H) 7.24 - 7.24 (m, 31 H) 7.50 - 7.54 (m, 1 H) 8.04 (d, J=8.20 Hz, 1 H) 8.44 (d, J=7.03 Hz, 1 H)                                                                                                                                                                                    |
| ER-885929 | <br><chem>CCCCCOC1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{16}H_{16}ClN_3O$    | 367.5 | 0.2190 | >20 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.81 - 0.87 (m, 3 H) 1.21 - 1.33 (m, 11 H) 1.51 - 1.64 (m, 3 H) 2.62 - 2.76 (m, 3 H) 3.26 (dt, J=11.72, 2.05 Hz, 1 H) 3.38 - 3.50 (m, 5 H) 3.58 (dd, J=9.96, 5.27 Hz, 1 H) 3.99 - 4.11 (m, 2 H) 7.06 (d, J=7.91 Hz, 1 H) 7.24 (s, 1 H) 7.47 - 7.51 (m, 1 H) 8.01 (dd, J=8.20 Hz, 1 H) 8.45 (dd, J=8.50, 1.46 Hz, 1 H) 9.05 (dd, J=4.10, 1.47 Hz, 1 H)                                                                             |
| ER-885930 | <br><chem>C1CCCCC1OC1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{22}H_{29}N_3O_2$ | 379.5 | 0.0710 | >20 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.83 - 0.93 (m, 2 H) 1.10 - 1.27 (m, 6 H) 1.55 - 1.73 (m, 5 H) 2.66 - 2.70 (m, 1 H) 2.73 (d, J=7.32 Hz, 1 H) 2.76 (d, J=1.17 Hz, 1 H) 2.79 (s, 1 H) 3.24 - 3.32 (m, 3 H) 3.39 - 3.52 (m, 2 H) 3.59 (dd, J=9.96, 4.98 Hz, 1 H) 3.80 (br. s., 7 H) 4.01 - 4.12 (m, 2 H) 7.11 (d, J=7.91 Hz, 1 H) 7.24 - 7.25 (m, 2 H) 7.58 (dd, J=8.79, 4.39 Hz, 1 H) 8.07 (d, J=7.91 Hz, 1 H) 8.54 - 8.57 (m, 1 H) 9.11 (dd, J=4.39, 1.76 Hz, 1 H) |
| ER-886131 | <br><chem>CCCC1CCN(C1)c2ccc(C#N)cc2</chem><br>$C_{18}H_{21}N_3O$         | 295.4 | 0.1240 | >20 | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 0.93 (3 H, t) 1.25 (3 H, d) 1.35 - 1.66 (4 H, m) 2.57 - 2.74 (2 H, m) 3.26 (2 H, d) 3.79 - 3.91 (1 H, m) 3.92 - 4.05 (1 H, m) 6.99 - 7.14 (1 H, m) 7.49 - 7.59 (1 H, m) 7.98 - 8.12 (1 H, m) 8.43 - 8.53 (1 H, m) 9.02 - 9.14 (1 H, m)                                                                                                                                                                                    |
|           |                                                                          |       |        |     | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>21</sub> N <sub>3</sub> O (M <sub>0</sub> +H <sup>+</sup> ) 296.3, found 296.1                                                                                                                                                                                                                                                                                                                                                        |

FIG. 6G

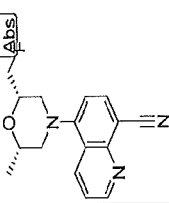
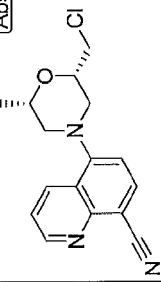
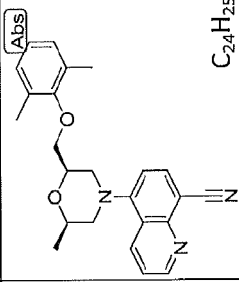
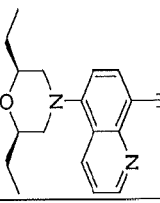
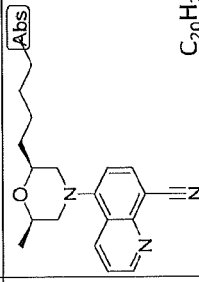
|           |                                                                                                                 |       |        |     |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                              |
|-----------|-----------------------------------------------------------------------------------------------------------------|-------|--------|-----|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| ER-886133 | <br><chem>C16H16FN3O</chem>  | 285.3 | 0.3410 | >20 | 5-((2S,6S)-2-(fluoromethyl)-6-methylmorpholino)quinoline-8-carbonitrile                | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.27 (d, J=6.45 Hz, 4 H) 1.67 (br. s., 9 H) 2.64 (s, 1 H) 2.67 (d, J=1.76 Hz, 1 H) 2.69 (s, 1 H) 2.72 (s, 1 H) 2.75 (d, J=1.46 Hz, 1 H) 2.78 (s, 1 H) 3.26 (t, J=2.05 Hz, 1 H) 3.29 (t, J=2.05 Hz, 1 H) 3.48 - 3.55 (m, 3 H) 3.65 (dd, J=11.43, 4.98 Hz, 1 H) 4.04 - 4.14 (m, 2 H) 7.09 (d, J=8.20 Hz, 1 H) 7.24 (s, 4 H) 7.50 - 7.54 (m, 1 H) 8.03 (s, 1 H) 8.05 (s, 1 H) 8.44 (dd, J=8.50, 1.76 Hz, 1 H) 9.07 (dd, J=4.10, 1.76 Hz, 1 H)            |                                                              |
| ER-886134 | <br><chem>C16H16ClN3O</chem> | 301.8 | 0.2700 | >20 | 5-((2S,6S)-2-(chloromethyl)-6-methylmorpholino)quinoline-8-carbonitrile                | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.23 - 1.29 (m, 6 H) 1.55 (s, 9 H) 2.26 (s, 7 H) 2.68 (d, J=11.13 Hz, 1 H) 2.72 (s, 1 H) 2.82 (d, J=11.43 Hz, 1 H) 2.86 (s, 1 H) 3.29 (s, 1 H) 3.32 (s, 1 H) 3.47 - 3.53 (m, 1 H) 3.55 (s, 1 H) 3.91 - 3.95 (m, 1 H) 4.07 - 4.16 (m, 2 H) 4.25 - 4.29 (m, 1 H) 6.52 (s, 2 H) 6.60 (s, 1 H) 7.07 (s, 1 H) 7.09 (s, 1 H) 7.24 (d, J=0.88 Hz, 5 H) 7.49 - 7.53 (m, 1 H) 8.02 (s, 1 H) 8.04 (s, 1 H) 8.45 - 8.48 (m, 1 H) 9.07 (dd, J=4.10, 1.76 Hz, 1 H) |                                                              |
| ER-886137 | <br><chem>C24H25N3O2</chem>  | 387.5 | 0.2500 | >20 | 5-((2R,6R)-2-((2,6-dimethylphenoxy)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.99 - 1.03 (m, 7 H) 1.47 - 1.57 (m, 2 H) 1.59 - 1.66 (m, 2 H) 2.61 (s, 1 H) 2.64 (s, 1 H) 2.67 (s, 1 H) 3.27 (s, 1 H) 3.30 (s, 1 H) 3.71 - 3.77 (m, 2 H) 7.06 (s, 1 H) 7.08 (s, 1 H) 7.24 - 7.24 (m, 6 H) 7.51 (dd, J=8.50, 4.10 Hz, 1 H) 8.02 (s, 1 H) 8.04 (s, 1 H) 8.45 - 8.48 (m, 1 H) 9.07 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                           |                                                              |
| ER-886211 | <br><chem>C18H21N3O</chem>  | 295.4 | 2.7795 | >20 | 5-((2R,6S)-2,6-diethylmorpholino)quinoline-8-carbonitrile                              | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.99 - 1.03 (m, 7 H) 1.47 - 1.57 (m, 2 H) 1.59 - 1.66 (m, 2 H) 2.61 (s, 1 H) 2.64 (s, 1 H) 2.67 (s, 1 H) 3.27 (s, 1 H) 3.30 (s, 1 H) 3.71 - 3.77 (m, 2 H) 7.06 (s, 1 H) 7.08 (s, 1 H) 7.24 - 7.24 (m, 6 H) 7.51 (dd, J=8.50, 4.10 Hz, 1 H) 8.02 (s, 1 H) 8.04 (s, 1 H) 8.45 - 8.48 (m, 1 H) 9.07 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                           |                                                              |
| ER-886212 | <br><chem>C20H25N3O</chem> | 323.4 | 0.2410 | >20 | 5-((2R,6S)-2-methyl-6-pentylmorpholino)quinoline-8-carbonitrile                        | <sup>1</sup> H NMR (400 MHz, CDCl3-d) δ ppm 0.88 (3 H, t) 1.25 (3 H, d) 1.28 - 1.35 (3 H, m) 1.39 - 1.53 (2 H, m) 1.54 - 1.65 (1 H, m) 2.60 - 2.69 (2 H, m) 2.73 - 2.83 (2 H, m) 3.19 - 3.33 (2 H, m) 3.76 - 3.88 (1 H, m) 3.93 - 4.06 (1 H, m) 7.00 - 7.14 (1 H, m) 7.48 - 7.61 (1 H, m) 7.98 - 8.10 (1 H, m) 8.38 - 8.56 (1 H, m) 9.00 - 9.13 (1 H, m)                                                                                                                                               | LCMS (ESI+) calcd for C20 H25 N3 O (M+H+) 324.4, found 324.5 |

FIG. 6H

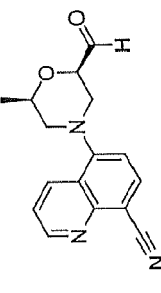
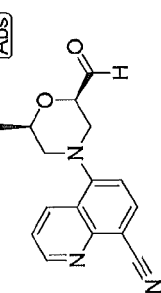
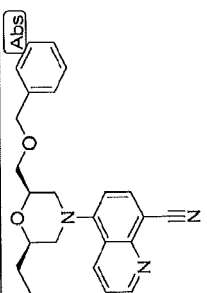
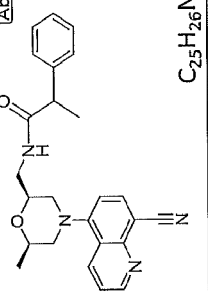
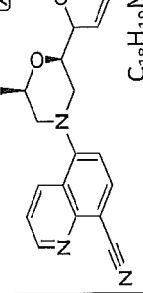
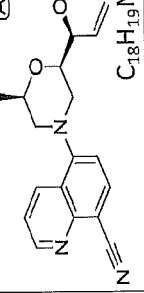
|           |                                                                                                                           |       |        |       |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                |
|-----------|---------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ER-886250 | <br><chem>C16H15N3O2</chem><br>(Abs)   | 281.3 | 0.1860 | >10.0 | 5-((2R,6R)-2-formyl-6-methylmorpholino)quinoline-8-carbonitrile                        | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) 1.35 (3 H, d) 2.65 - 2.85 (2 H, m) 3.24 (1H, d) 3.58 (1 H, d) 4.09 - 4.014 (1 H, m) 4.50 (1 H, d) 7.11 (1 H, d) 7.53 (1 H, d) 8.05 (1 H, d) 8.53 (1 H, d) 9.08 (1 H, s) 9.75 (1 H, s)                                                                                                                                                                                                                                           |                                                                |
| ER-886250 | <br><chem>C16H15N3O2</chem><br>(Abs)   | 309.4 | 0.1670 | >20   | 5-((2R,6R)-2-formyl-6-methylmorpholino)quinoline-8-carbonitrile                        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.37 (d, 3 H) 2.64 - 2.88 (m, 2 H) 3.33 (dt, J=11.96, 2.14 Hz, 1 H) 3.56 (dt, J=11.96, 2.46 Hz, 1 H) 4.06 - 4.22 (m, 1 H) 4.40 (dd, J=10.79, 2.88 Hz, 1 H) 7.07 - 7.18 (m, 1 H) 7.50 - 7.61 (m, 1 H) 8.00 - 8.14 (m, 1 H) 8.46 (dd, J=8.65, 1.82 Hz, 1 H) 9.05 - 9.15 (m, 1 H) 9.73 (s, 1 H)                                                                                                                                      |                                                                |
| ER-886355 | <br><chem>C16H15N3O2</chem><br>(Abs)   | 387.5 | 0.0250 | >20   | 5-((2R,6R)-2-((benzyloxy)methyl)-6-ethylmorpholino)quinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.97 - 1.01 (m, 8 H) 1.52 - 1.65 (m, 20 H) 2.62 - 2.66 (m, 1 H) 2.68 - 2.76 (m, 1 H) 3.27 (s, 1 H) 3.30 (s, 1 H) 3.39 (s, 1 H) 3.42 (s, 1 H) 3.51 (dd, J=9.96, 5.86 Hz, 2 H) 3.64 (dd, J=10.25, 4.98 Hz, 2 H) 4.57 (s, 5 H) 5.28 (s, 3 H) 7.05 (s, 1 H) 7.07 (s, 1 H) 7.23 - 7.27 (m, 19 H) 7.29 - 7.33 (m, 8 H) 7.49 (dd, J=8.50, 4.39 Hz, 2 H) 8.01 (s, 1 H) 8.03 (s, 1 H) 8.44 (dd, J=8.79, 1.76 Hz, 2 H) 9.05 - 9.06 (m, 1 H) |                                                                |
| ER-886360 | <br><chem>C24H25N3O2</chem><br>(Abs)  | 414.5 | 0.3710 | >20   | N-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)-2-phenylpropanamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.15 - 1.18 (m, 4 H) 1.43 (dd, J=7.03, 3.81 Hz, 1 H) 1.51 - 1.57 (m, 5 H) 2.42 (s, 1 H) 2.45 (s, 1 H) 2.55 (s, 1 H) 2.58 (s, 1 H) 3.16 - 3.23 (m, 2 H) 3.62 (s, 1 H) 6.94 (s, 1 H) 6.96 (s, 1 H) 7.02 (s, 1 H) 7.04 (s, 1 H) 7.26 - 7.37 (m, 12 H) 7.50 - 7.53 (m, 1 H) 8.02 - 8.05 (m, 1 H) 8.39 - 8.42 (m, 1 H) 9.07 - 9.09 (m, 1 H)                                                                                            |                                                                |
| ER-886418 | <br><chem>C25H26N4O2</chem><br>(Abs) | 387.5 | 0.2770 | >20   | 5-((2R,6R)-2-(1-hydroxyallyl)-6-methylmorpholino)quinoline-8-carbonitrile              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                |
| ER-886431 | <br><chem>C18H19N3O2</chem><br>(Abs) | 387.5 | 0.2070 | >20   | 5-((2R,6R)-2-((S)-1-hydroxyallyl)-6-methylmorpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.30 (d, 3 H) 2.57 - 2.72 (m, 1 H) 2.80 (t, J=11.32 Hz, 1 H) 3.30 (d, 2 H) 3.77 - 3.90 (m, 1 H) 4.02 - 4.19 (m, 2 H) 5.23 - 5.34 (m, 1 H) 5.35 - 5.47 (m, 1 H) 5.83 - 5.99 (m, 1 H) 7.09 (d, J=7.90 Hz, 1 H) 7.48 - 7.60 (m, 1 H) 8.00 - 8.12 (m, 1 H) 8.43 (dd, J=8.55, 1.71 Hz, 1 H) 9.09 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                                            | LCMS (ESI+) calcd for C18H19N3O2 (M+H+): 310.15, found: 310.16 |

FIG. 6I

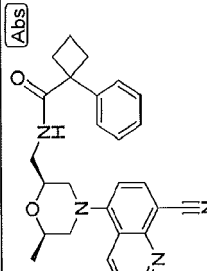
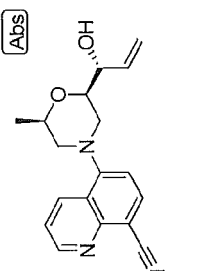
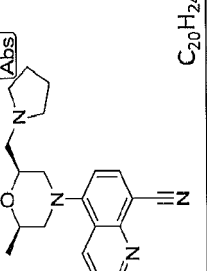
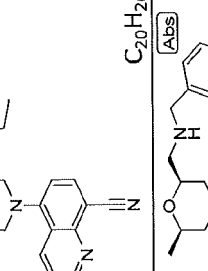
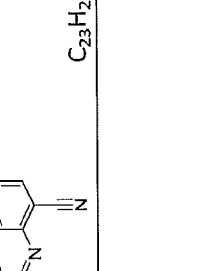
|           |                                                                                       |       |        |        |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ER-886432 |    | 440.5 | 0.3050 | >20    | N-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholino-2-yl)methyl)-1-phenylcyclobutanecarboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.81 - 0.88 (m, 1 H) 1.10 (d, J=6.15 Hz, 4 H) 1.22 - 1.29 (m, 2 H) 1.62 (br s., 1 H) 1.84 - 1.93 (m, 1 H) 2.08 - 2.16 (m, 1 H) 2.31 - 2.38 (m, 2 H) 2.40 - 2.56 (m, 2 H) 2.72 - 2.80 (m, 1 H) 2.83 - 2.90 (m, 1 H) 3.07 - 3.14 (m, 2 H) 3.22 - 3.29 (m, 1 H) 3.37 - 3.44 (m, 1 H) 3.80 - 3.88 (m, 2 H) 5.57 - 5.62 (m, 1 H) 6.90 (d, J=7.91 Hz, 1 H) 7.21 - 7.26 (m, 2 H) 7.28 - 7.37 (m, 4 H) 7.47 (dd, J=8.50, 4.10 Hz, 1 H) 7.99 (d, J=7.91 Hz, 1 H) 8.35 (dd, J=8.50, 1.46 Hz, 1 H) 9.04 (dd, J=4.10, 1.46 Hz, 1 H) | LCMS (ESI+) calcd for C18H19N3O2 (M+H+): 310.15, found: 310.14 |
| ER-886480 |    | 309.4 | 0.2070 | >20    | 5-((2R,6R)-2-((R)-1-hydroxyallyl)-6-methylmorpholino)quinoline-8-carbonitrile                       | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.29 (d, 3 H) 2.23 (d, J=3.85 Hz, 1 H) 2.65 (dd, J=11.75, 10.25 Hz, 1 H) 2.91 (dd, J=11.96, 10.47 Hz, 1 H) 3.23 - 3.39 (m, 2 H) 3.94 (ddd, J=10.47, 4.27, 2.35 Hz, 1 H) 4.02 - 4.13 (m, 1 H) 4.28 - 4.41 (m, 1 H) 5.27 (dt, J=10.68, 1.50 Hz, 1 H) 5.41 (dt, J=17.09, 1.50 Hz, 1 H) 5.95 (ddd, J=17.30, 10.68, 5.77 Hz, 1 H) 7.09 (d, J=8.12 Hz, 1 H) 7.48 - 7.58 (m, 1 H) 8.05 (d, J=7.90 Hz, 1 H) 8.44 (dd, J=8.55, 1.71 Hz, 1 H) 9.08 (dd, J=4.27, 1.71 Hz, 1 H)                                                     |                                                                |
| ER-886507 |    | 336.4 | 0.0750 | 13.287 | 5-((2R,6S)-2-methyl-6-(pyrrolidin-1-yl)methylmorpholino)quinoline-8-carbonitrile                    | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm 1.28 (d, J=6.15 Hz, 4 H) 1.99 - 2.07 (m, 2 H) 2.15 (d, J=4.10 Hz, 2 H) 2.65 - 2.79 (m, 2 H) 3.12 - 3.25 (m, 3 H) 3.30 - 3.42 (m, 5 H) 3.67 - 3.74 (m, 2 H) 4.11 - 4.17 (m, 1 H) 4.29 - 4.35 (m, 1 H) 4.83 - 4.86 (m, 6 H) 7.24 (d, J=7.91 Hz, 1 H) 7.57 - 7.63 (m, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.63 (dd, J=8.50, 1.76 Hz, 1 H) 8.96 (dd, J=4.10, 1.76 Hz, 1 H)                                                                                                                                                         |                                                                |
| ER-886508 |   | 338.5 | 0.1200 | 14.481 | 5-((2S,6R)-2-((diethylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                     | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm 1.24 - 1.36 (m, 21 H) 2.65 - 2.75 (m, 3 H) 3.29 - 3.41 (m, 14 H) 4.81 - 4.85 (m, 12 H) 7.25 (d, J=8.20 Hz, 2 H) 7.62 (dd, J=8.50, 4.10 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.62 - 8.65 (m, 1 H) 8.93 - 8.97 (m, 2 H)                                                                                                                                                                                                                                                                                                       |                                                                |
| ER-886509 |  | 372.5 | 0.0440 | 3.94   | 5-((2S,6R)-2-((benzylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                      | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm 1.28 (d, J=6.45 Hz, 4 H) 2.64 - 2.72 (m, 2 H) 2.74 - 2.79 (m, 1 H) 3.07 - 3.13 (m, 1 H) 3.22 (d, J=2.93 Hz, 2 H) 3.34 - 3.41 (m, 2 H) 4.09 - 4.13 (m, 1 H) 4.22 - 4.30 (m, 3 H) 4.82 - 4.85 (m, 9 H) 7.23 (d, J=8.20 Hz, 1 H) 7.43 - 7.50 (m, 5 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (d, J=8.20 Hz, 1 H) 8.57 - 8.61 (m, 1 H) 8.94 - 8.96 (m, 1 H)                                                                                                                                                                    |                                                                |

FIG. 6J

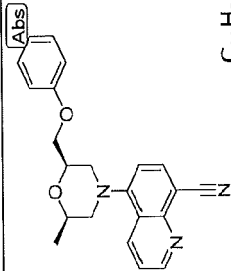
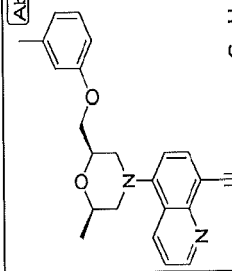
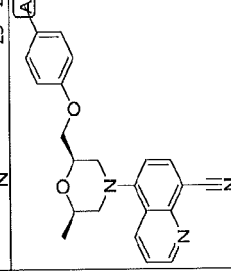
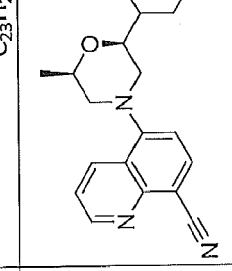
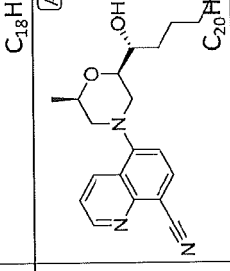
|           |                                                                                                                                                        |       |        |     |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-886514 | <br>C <sub>22</sub> H <sub>21</sub> N <sub>3</sub> O <sub>2</sub>   | 359.4 | 0.0030 | >20 | 5-((2R,6R)-2-methyl-6-(phenoxymethyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.29 (d, J=6.15 Hz, 3 H) 1.96 (br s, 9 H) 2.68 (s, 1 H) 2.71 (d, J=1.76 Hz, 1 H) 2.74 (s, 1 H) 2.84 - 2.90 (m, 1 H) 3.29 - 3.30 (m, 1 H) 3.33 (t, J=2.05 Hz, 1 H) 3.52 - 3.54 (m, 1 H) 3.56 (s, 1 H) 3.98 (dd, J=9.67, 6.74 Hz, 1 H) 4.10 (ddd, J=10.25, 6.45, 2.34 Hz, 1 H) 4.17 (dd, J=9.67, 4.69 Hz, 1 H) 4.28 - 4.32 (m, 1 H) 6.88 - 6.91 (m, 2 H) 6.93 - 6.98 (m, 1 H) 7.10 (d, J=7.91 Hz, 1 H) 7.24 - 7.29 (m, 6 H) 7.53 (dd, J=8.50, 4.39 Hz, 1 H) 8.04 (d, J=7.91 Hz, 1 H) 8.49 (dd, J=8.50, 1.76 Hz, 1 H) 9.08 (dd, J=4.39, 1.76 Hz, 1 H)                              |                                                                                                                   |
| ER-886515 | <br>C <sub>22</sub> H <sub>21</sub> N <sub>3</sub> O <sub>2</sub>   | 373.5 | 0.0360 | >20 | 5-((2R,6R)-2-methyl-6-(m-tolyl(methoxy)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.29 (d, J=6.15 Hz, 3 H) 1.90 (br s, 9 H) 2.30 (s, 3 H) 2.68 (s, 1 H) 2.70 (d, J=1.76 Hz, 1 H) 2.73 (s, 1 H) 2.82 - 2.86 (m, 1 H) 2.88 (s, 1 H) 3.29 (t, J=2.05 Hz, 1 H) 3.32 (s, 1 H) 3.48 - 3.53 (m, 1 H) 3.55 - 3.56 (m, 1 H) 3.93 - 3.98 (m, 1 H) 4.07 - 4.12 (m, 1 H) 4.16 (dd, J=9.67, 4.69 Hz, 1 H) 4.27 - 4.31 (m, 1 H) 6.68 - 6.73 (m, 2 H) 6.77 (d, J=7.32 Hz, 1 H) 7.09 (s, 1 H) 7.10 - 7.13 (m, 1 H) 7.15 - 7.17 (m, 1 H) 7.24 (s, 4 H) 7.52 (dd, J=8.50, 4.39 Hz, 1 H) 8.03 (s, 1 H) 8.05 (s, 1 H) 8.48 (dd, J=8.50, 1.76 Hz, 1 H) 9.08 (dd, J=4.39, 1.76 Hz, 1 H) |                                                                                                                   |
| ER-886516 | <br>C <sub>23</sub> H <sub>23</sub> N <sub>3</sub> O <sub>2</sub>   | 373.5 | 0.0180 | >20 | 5-((2R,6R)-2-methyl-6-(p-tolyl(methoxy)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.31 (d, J=6.15 Hz, 3 H) 1.58 (s, 6 H) 2.29 (s, 3 H) 2.70 (s, 1 H) 2.73 (d, J=1.76 Hz, 1 H) 2.75 (s, 1 H) 2.85 (s, 1 H) 2.87 (d, J=1.46 Hz, 1 H) 2.90 (s, 1 H) 3.31 - 3.33 (m, 1 H) 3.34 - 3.35 (m, 1 H) 3.50 (s, 1 H) 3.55 (t, J=2.05 Hz, 1 H) 3.57 - 3.59 (m, 1 H) 3.97 (dd, J=9.67, 6.74 Hz, 1 H) 4.18 (d, J=4.69 Hz, 1 H) 4.16 (d, J=4.69 Hz, 1 H) 4.30 (s, 1 H) 6.80 - 6.83 (m, 2 H) 7.07 - 7.11 (m, 2 H) 7.13 (s, 1 H) 7.54 (dd, J=8.50, 4.10 Hz, 1 H) 8.05 (s, 1 H) 8.07 (s, 1 H) 8.48 (d, J=1.76 Hz, 1 H) 8.50 (d, J=1.76 Hz, 1 H) 9.09 (dd, J=4.10, 1.76 Hz, 1 H)      |                                                                                                                   |
| ER-886520 | <br>C <sub>23</sub> H <sub>23</sub> N <sub>3</sub> O <sub>2</sub>  | 311.4 | 0.2150 | >20 | 5-((2R,6R)-2-(1-hydroxypropyl)-6-methylmorpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.04 (t, J=7.37 Hz, 3 H) 1.23 - 1.33 (m, 3 H) 1.44 - 1.72 (m, 2 H) 2.02 (d, 1 H) 2.64 (dd, J=11.96, 10.25 Hz, 1 H) 2.83 - 3.01 (m, 1 H) 3.24 - 3.43 (m, 2 H) 3.73 (dd, J=8.55, 4.27 Hz, 1 H) 3.76 - 3.90 (m, 1 H) 3.97 - 4.15 (m, 1 H) 7.06 - 7.15 (m, 1 H) 7.47 - 7.57 (m, 1 H) 8.00 - 8.11 (m, 1 H) 8.46 (dd, J=8.55, 1.71 Hz, 1 H) 9.01 - 9.14 (m, 1 H)                                                                                                                                                                                                                      | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>21</sub> N <sub>3</sub> O <sub>2</sub> (M+H+): 312.17, found: 312.2  |
| ER-886530 | <br>C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> | 339.4 | 0.0440 | >20 | 5-((2R,6R)-2-(R)-1-hydroxybutyl)-6-methylmorpholino)quinoline-8-carbonitrile      | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.83 - 1.01 (m, 3 H) 1.20 - 1.30 (m, 3 H) 1.30 - 1.42 (m, 3 H) 1.44 - 1.60 (m, 3 H) 2.09 (d, J=3.42 Hz, 1 H) 2.63 (dd, J=11.75, 10.25 Hz, 1 H) 2.94 (dd, J=11.86, 10.15 Hz, 1 H) 3.20 - 3.44 (m, 2 H) 3.71 - 3.89 (m, 2 H) 3.99 - 4.14 (m, 1 H) 7.10 (d, J=7.90 Hz, 1 H) 7.51 (dd, J=8.55, 4.27 Hz, 1 H) 8.04 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.55, 1.82 Hz, 1 H) 9.07 (dd, J=4.06, 1.71 Hz, 1 H)                                                                                                                                                                               | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> (M+H+): 340.20, found: 340.18 |

FIG. 6K

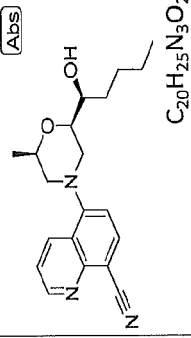
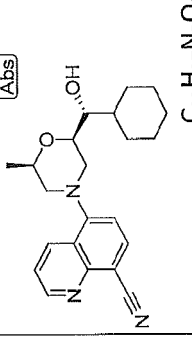
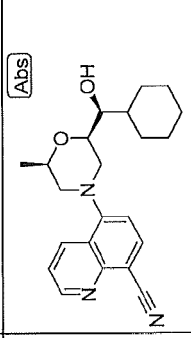
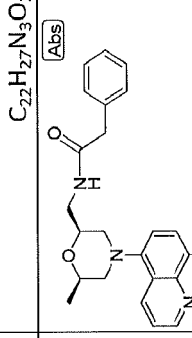
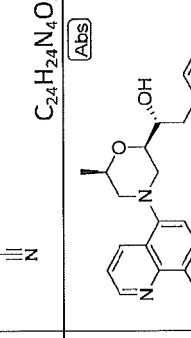
|           |                                                                                       |       |        |     |                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-----|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ER-886531 |    | 339.4 | 0.1930 | >20 | 5-((2R,6R)-2-((S)-1-hydroxypentyl)-6-methylmorpholino)quinoline-8-carbonitrile           | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.82 - 0.97 (m, 3 H) 1.21 - 1.28 (m, 3 H) 1.29 - 1.48 (m, 3 H) 1.50 - 1.55 (m, 3 H) 2.59 - 2.70 (m, 1 H) 2.89 (dd, J=11.75, 10.47 Hz, 1 H) 3.21 - 3.34 (m, 2 H) 3.57 (m, 1 H) 3.72 - 3.86 (m, 1 H) 4.00 - 4.13 (m, 1 H) 7.05 - 7.15 (m, 1 H) 7.45 - 7.57 (m, 1 H) 7.99 - 8.10 (m, 1 H) 8.46 (dd, J=8.55, 1.71 Hz, 1 H) 9.04 - 9.17 (m, 1 H)                                                                            | LCMS (ESI+) calcd for C20H25N3O2 (M+H+): 340.20, found: 340.26 |
| ER-886532 |    | 365.5 | 0.0690 | >20 | 5-((2R,6R)-2-((R)-cyclohexyl(hydroxy)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.98 - 1.37 (m, 6 H) 1.27 (d, 3 H) 1.47 - 1.72 (m, 2 H) 1.73 - 1.85 (m, 2 H) 2.02 (m, 1 H) 2.27 (d, 1 H) 2.63 (dd, J=11.96, 10.25 Hz, 1 H) 2.91 - 3.03 (m, 1 H) 3.25 - 3.41 (m, 2 H) 3.56 (ddd, J=7.42, 4.54, 3.20 Hz, 1 H) 3.95 (ddd, J=10.31, 4.75, 2.24 Hz, 1 H) 4.01 - 4.17 (m, 1 H) 7.06 - 7.15 (m, 1 H) 7.46 - 7.56 (m, 1 H) 8.06 (d, J=8.12 Hz, 1 H) 8.41 - 8.52 (m, 1 H) 9.01 - 9.13 (m, 1 H)                  | LCMS (ESI+) calcd for C22H27N3O2 (M+H+): 366.21, found: 366.22 |
| ER-886533 |    | 365.5 | 0.0780 | >20 | 5-((2R,6R)-2-((S)-cyclohexyl(hydroxy)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.07 - 1.37 (m, 6 H) 1.28 (d, 3 H) 1.41 - 1.56 (m, 1 H) 1.62 - 1.74 (m, 2 H) 1.79 (br. s, 2 H) 1.87 (d, J=8.33 Hz, 1 H) 2.28 (d, J=6.20 Hz, 1 H) 2.63 (dd, J=11.96, 10.25 Hz, 1 H) 2.98 (dd, J=11.54, 10.47 Hz, 1 H) 3.16 - 3.35 (m, 3 H) 3.96 (ddd, J=10.31, 4.65, 2.35 Hz, 1 H) 4.00 - 4.15 (m, 1 H) 7.05 - 7.15 (m, 1 H) 7.47 - 7.56 (m, 1 H) 8.06 (d, J=7.90 Hz, 1 H) 8.39 - 8.52 (m, 1 H) 9.00 - 9.15 (m, 1 H)    | LCMS (ESI+) calcd for C22H27N3O2 (M+H+): 366.21, found: 366.24 |
| ER-886563 |   | 400.5 | 0.2100 | >20 | N-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)-2-phenylacetamide     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.14 (d, J=6.15 Hz, 3 H) 2.40 (br. s, 5 H) 2.48 (s, 1 H) 2.50 (s, 1 H) 2.53 (d, J=2.05 Hz, 1 H) 2.57 (d, J=11.43 Hz, 1 H) 3.18 - 3.24 (m, 3 H) 3.54 - 3.60 (m, 1 H) 3.64 (s, 2 H) 3.91 - 3.96 (m, 2 H) 5.99 (s, 1 H) 7.00 (s, 1 H) 7.02 (s, 1 H) 7.23 - 7.28 (m, 6 H) 7.31 - 7.38 (m, 2 H) 7.51 (dd, J=8.50, 4.39 Hz, 1 H) 8.01 (s, 1 H) 8.03 (s, 1 H) 8.40 (dd, J=8.50, 1.76 Hz, 1 H) 9.07 (dd, J=4.10, 1.76 Hz, 1 H) | LCMS (ESI+) calcd for C23H23N3O2 (M+H+): 374.18, found: 374.16 |
| ER-886564 |  | 373.5 | 0.1020 |     | 5-((2R,6R)-2-((R)-1-hydroxy-2-phenylethyl)-6-methylmorpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.30 (d, J=6.41 Hz, 3 H) 2.38 (d, J=5.77 Hz, 1 H) 2.65 (dd, J=11.96, 10.25 Hz, 1 H) 2.84 - 2.94 (m, 1 H) 2.94 - 3.06 (m, 2 H) 3.15 - 3.33 (m, 2 H) 3.73 - 3.93 (m, 2 H) 3.95 - 4.12 (m, 1 H) 7.06 (d, J=8.12 Hz, 1 H) 7.23 - 7.29 (m, 3 H) 7.29 - 7.36 (m, 2 H) 7.49 (dd, J=8.55, 4.06 Hz, 1 H) 8.02 (d, J=7.90 Hz, 1 H) 8.38 (dd, J=8.55, 1.71 Hz, 1 H) 9.06 (dd, J=4.27, 1.71 Hz, 1 H)                               | LCMS (ESI+) calcd for C23H23N3O2 (M+H+): 374.18, found: 374.16 |

FIG. 6L

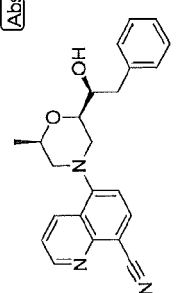
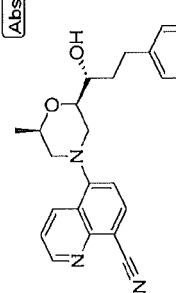
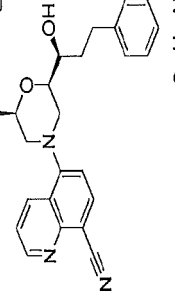
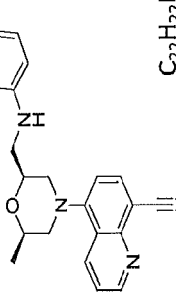
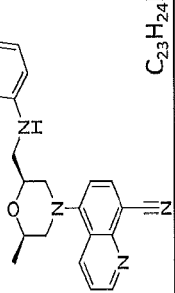
|           |                                                                                                             |       |        |     |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                |
|-----------|-------------------------------------------------------------------------------------------------------------|-------|--------|-----|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| ER-886565 | <br>$C_{23}H_{23}N_3O_2$ | 373.5 | 0.0490 | > 2 | 5-((2R,6R)-2-((S)-1-hydroxy-2-phenylethyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.30 (d, J=6.41 Hz, 3 H) 2.38 (d, J=5.77 Hz, 1 H) 2.55 (dd, J=11.96, 10.25 Hz, 1 H) 2.84 - 2.94 (m, 1 H) 2.94 - 3.06 (m, 2 H) 3.15 - 3.33 (m, 2 H) 3.73 - 3.93 (m, 2 H) 3.95 - 4.12 (m, 1 H) 7.06 (d, J=8.12 Hz, 1 H) 7.23 - 7.29 (m, 3 H) 7.29 - 7.36 (m, 2 H) 7.49 (dd, J=8.55, 4.06 Hz, 1 H) 8.02 (d, J=7.90 Hz, 1 H) 8.38 (dd, J=8.55, 1.71 Hz, 1 H) 9.06 (dd, J=4.27, 1.71 Hz, 1 H)                                      | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>23</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 374.18, found: 374.14 |
| ER-886567 | <br>$C_{24}H_{25}N_3O_2$ | 387.5 | 0.0225 | >20 | 5-((2R,6R)-2-((R)-1-hydroxy-3-phenylpropyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.27 (d, 4 H) 1.72 - 1.93 (m, 2 H) 2.07 (d, J=3.42 Hz, 1 H) 2.56 - 2.79 (m, 2 H) 2.85 - 2.99 (m, 2 H) 3.21 - 3.39 (m, 2 H) 3.75 - 3.88 (m, 2 H) 4.05 (m, 1 H) 7.09 (d, J=8.12 Hz, 1 H) 7.15 - 7.38 (m, 5 H) 7.51 (dd, J=8.55, 4.27 Hz, 1 H) 8.05 (d, J=7.90 Hz, 1 H) 8.44 (dd, J=8.55, 1.71 Hz, 1 H) 9.08 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                          | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 388.20, found: 388.17 |
| ER-886568 | <br>$C_{24}H_{25}N_3O_2$ | 387.5 | 0.0540 | >20 | 5-((2R,6R)-2-((S)-1-hydroxy-3-phenylpropyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.27 (d, 4 H) 1.70 - 1.99 (m, 2 H) 2.46 (d, J=5.34 Hz, 1 H) 2.63 (dd, J=11.86, 10.15 Hz, 1 H) 2.75 (ddd, J=13.62, 9.24, 7.05 Hz, 1 H) 2.82 - 3.00 (m, 2 H) 3.26 (ddt, J=18.08, 11.72, 2.08, 2.08 Hz, 2 H) 3.51 - 3.65 (m, 1 H) 3.73 - 3.89 (m, 1 H) 4.05 (ddd, J=10.15, 6.20, 2.24 Hz, 1 H) 7.01 - 7.14 (m, 1 H) 7.15 - 7.34 (m, 5 H) 7.47 - 7.59 (m, 1 H) 8.04 (d, J=7.90 Hz, 1 H) 8.38 - 8.48 (m, 1 H) 9.03 - 9.14 (m, 1 H) | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 388.20, found: 388.16 |
| ER-886601 | <br>$C_{22}H_{22}N_4O$  | 358.4 | 0.0115 | >20 | 5-((2R,6S)-2-methyl-6-((phenylamino)methyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 (d, J=6.15 Hz, 5 H) 2.62 (s, 1 H) 2.65 (d, J=1.76 Hz, 1 H) 2.67 (s, 1 H) 2.72 (s, 1 H) 2.74 (s, 1 H) 2.77 (s, 1 H) 3.24 (d, J=5.27 Hz, 3 H) 3.34 (s, 1 H) 3.37 (s, 1 H) 3.46 (s, 1 H) 3.48 (s, 1 H) 4.12 (s, 1 H) 6.59 - 6.67 (m, 3 H) 7.09 (dd, J=8.79, 7.32 Hz, 2 H) 7.20 (d, J=8.20 Hz, 1 H) 7.53 - 7.57 (m, 1 H) 8.09 (s, 1 H) 8.11 (s, 1 H) 8.52 - 8.55 (m, 1 H) 8.92 (dd, J=4.39, 1.76 Hz, 1 H)        |                                                                                                                                |
| ER-886602 | <br>$C_{23}H_{24}N_4O$ | 372.5 | 0.1850 | >20 | 5-((2R,6S)-2-methyl-6-((m-tolylamino)methyl)morpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.32 (d, J=6.15 Hz, 4 H) 2.39 (s, 3 H) 2.66 - 2.80 (m, 2 H) 3.36 - 3.42 (m, 2 H) 3.49 - 3.56 (m, 2 H) 4.06 - 4.18 (m, 2 H) 7.19 - 7.27 (m, 4 H) 7.38 - 7.42 (m, 1 H) 7.56 - 7.60 (m, 1 H) 8.12 (d, J=8.20 Hz, 1 H) 8.55 - 8.58 (m, 1 H) 8.94 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                                           |                                                                                                                                |

FIG. 6M

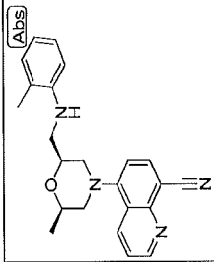
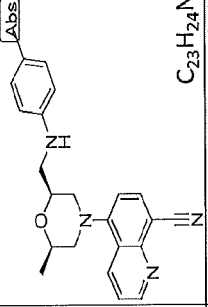
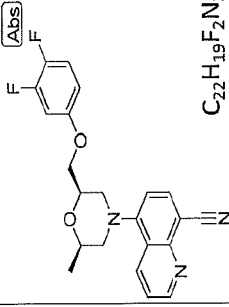
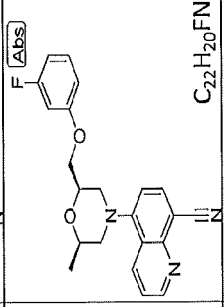
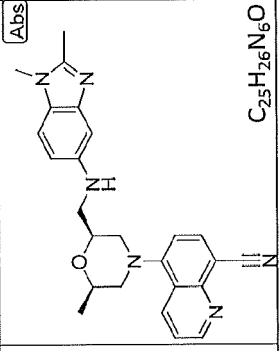
|           |                                                                                       |       |        |       |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                 |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| ER-886603 |    | 372.5 | 0.0110 | >20   | 5-((2R,6S)-2-methyl-6-(o-tolylamino)methylmorpholino)quinoline-8-carbonitrile                   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.32 (d, J=5.57 Hz, 4 H) 2.39 (s, 3 H) 2.68 (d, J=12.01 Hz, 1 H) 2.74 (d, J=13.48 Hz, 1 H) 2.78 (s, 1 H) 2.81 (s, 1 H) 3.38 - 3.45 (m, 4 H) 3.53 (d, J=3.22 Hz, 1 H) 3.57 (d, J=3.52 Hz, 1 H) 4.09 (d, J=4.69 Hz, 1 H) 4.17 (s, 1 H) 4.85 (s, 9 H) 7.20 - 7.25 (m, 3 H) 7.28 - 7.33 (m, 2 H) 7.57 - 7.60 (m, 1 H) 8.12 (d, J=7.32 Hz, 1 H) 8.57 (d, J=8.50 Hz, 1 H) 8.94 (d, J=4.39 Hz, 1 H)                   |                                                                 |
| ER-886604 |    | 372.5 | 0.0860 | >20   | 5-((2R,6S)-2-methyl-6-(p-tolylamino)methylmorpholino)quinoline-8-carbonitrile                   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.33 (d, J=6.15 Hz, 4 H) 2.38 (s, 4 H) 2.66 - 2.80 (m, 3 H) 3.34 - 3.41 (m, 2 H) 3.47 - 3.57 (m, 3 H) 4.04 - 4.16 (m, 2 H) 7.23 (d, J=8.20 Hz, 1 H) 7.34 - 7.40 (m, 4 H) 7.56 - 7.60 (m, 1 H) 8.11 (d, J=8.20 Hz, 1 H) 8.56 (dd, J=8.50, 1.76 Hz, 1 H) 8.92 - 8.94 (m, 1 H)                                                                                                                                    |                                                                 |
| ER-886605 |    | 395.4 | 0.0220 |       | 5-((2R,6R)-2-((3,4-difluorophenyl)methylmorpholino)quinoline-8-carbonitrile                     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 (d, J=6.45 Hz, 4 H) 2.66 (dd, J=11.72, 10.25 Hz, 1 H) 2.88 (dd, J=11.72, 10.55 Hz, 1 H) 3.39 (s, 1 H) 3.36 (s, 1 H) 3.49 (s, 1 H) 3.46 (s, 1 H) 3.99 - 4.13 (m, 4 H) 4.25 - 4.31 (m, 1 H) 4.82 - 4.86 (m, 4 H) 6.68 - 6.74 (m, 1 H) 6.85 - 6.91 (m, 1 H) 7.08 - 7.16 (m, 1 H) 7.24 (d, J=8.20 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.61 - 8.65 (m, 1 H) 8.94 (dd, J=4.39, 1.76 Hz, 1 H) |                                                                 |
| ER-886606 |   | 377.4 | 0.0030 | >20   | 5-((2R,6R)-2-((3-fluorophenyl)methylmorpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 (3 H, d) 2.68 (1 H, t) 2.88 (1 H, t) 3.38 (1 H, d) 3.49 (1 H, d) 3.99 - 4.14 (3 H, m) 4.25 - 4.36 (1 H, m) 6.59 - 6.80 (3 H, m) 7.17 - 7.30 (2 H, m) 7.58 - 7.65 (1 H, m) 8.08 - 8.18 (1 H, m) 8.58 - 8.69 (1 H, m) 8.90 - 8.99 (1 H, m)                                                                                                                                                                  | LCMS (ESI+) calcd for C22 H20 F N3 O2 (M+H+) 378.4, found 378.5 |
| ER-886608 |  | 426.5 | 0.0130 | 3.366 | 5-((2S,6R)-2-(((1,2-dimethyl-5-benzimidazol-5-ylamino)methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 (d, J=6.15 Hz, 4 H) 2.62 - 2.68 (m, 1 H) 2.72 (s, 3 H) 2.77 - 2.84 (m, 1 H) 3.29 - 3.39 (m, 4 H) 3.46 (d, J=12.01 Hz, 1 H) 3.86 (s, 3 H) 4.08 (d, J=6.74 Hz, 1 H) 4.16 (d, J=7.62 Hz, 1 H) 4.80 (s, 1 H) 6.78 (d, J=2.05 Hz, 1 H) 6.95 - 6.98 (m, 1 H) 7.22 (d, J=8.20 Hz, 1 H) 7.49 (d, J=8.79 Hz, 1 H) 7.55 - 7.58 (m, 1 H) 8.11 (d, J=7.91 Hz, 1 H) 8.56 - 8.59 (m, 1 H) 8.92 - 8.94 (m, 1 H)          |                                                                 |

FIG. 6N

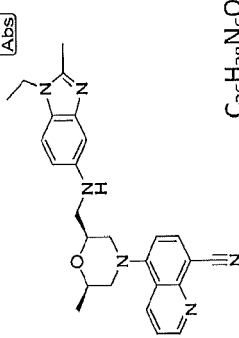
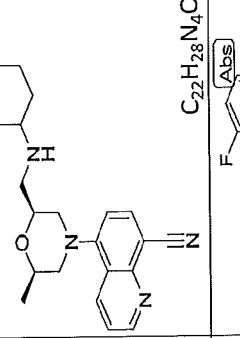
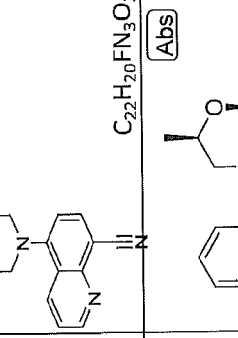
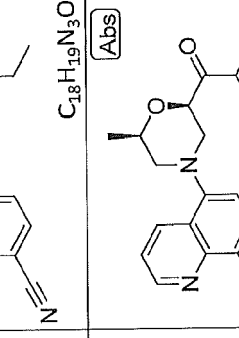
|           |                                                                                                                                                         |       |        |       |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-886609 | <br>C <sub>26</sub> H <sub>28</sub> N <sub>6</sub> O                 | 440.6 | 0.0120 | 6.929 | 5-((2S,6R)-2-(((1-ethyl-2-methyl-1H-benzotriazol-5-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.26 - 1.28 (m, 3 H) 1.31 - 1.40 (m, 4 H) 1.70 (d, J=12.89 Hz, 1 H) 1.87 (d, J=8.20 Hz, 2 H) 2.11 (br. s., 2 H) 2.64 - 2.71 (m, 1 H) 2.73 - 2.77 (m, 1 H) 3.07 - 3.15 (m, 2 H) 3.22 (br. s., 1 H) 3.41 (s, 1 H) 3.38 (s, 1 H) 4.09 - 4.13 (m, 1 H) 4.22 (t, J=9.96 Hz, 1 H) 4.84 - 4.85 (m, 8 H) 7.24 (dd, J=7.91, 2.34 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.12 - 8.15 (m, 1 H) 8.59 - 8.63 (m, 1 H) 8.95 - 8.97 (m, 1 H)                                              |                                                                                                                   |
| ER-886611 | <br>C <sub>26</sub> H <sub>28</sub> N <sub>6</sub> O                 | 364.5 | 0.1070 | 8.112 | 5-((2S,6R)-2-((cyclohexylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                              | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 (dd, J=6.15, 0.88 Hz, 5 H) 2.67 (d, J=10.84 Hz, 1 H) 2.87 - 2.90 (m, 1 H) 2.92 (s, 1 H) 3.37 (s, 1 H) 3.40 (s, 1 H) 3.53 (s, 1 H) 3.56 (s, 1 H) 4.06 - 4.10 (m, 1 H) 4.16 - 4.20 (m, 1 H) 4.83 - 4.85 (m, 17 H) 7.03 - 7.11 (m, 3 H) 7.24 (s, 1 H) 7.26 (s, 1 H) 7.60 - 7.63 (m, 1 H) 8.12 (d, J=0.88 Hz, 1 H) 8.14 (d, J=0.88 Hz, 1 H) 8.63 (s, 1 H) 8.65 (s, 1 H) 8.94 - 8.96 (m, 1 H)                                                                     |                                                                                                                   |
| ER-886624 | <br>C <sub>22</sub> H <sub>28</sub> FN <sub>3</sub> O <sub>2</sub>  | 377.4 | 0.0027 | >20   | 5-((2R,6R)-2-((2-fluorophenoxy)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                              | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.02 - 1.16 (m, 3 H) 1.33 (d, J=6.20 Hz, 3 H) 2.58 - 2.86 (m, 5 H) 3.30 (dt, J=11.96, 2.14 Hz, 1 H) 3.62 (dt, J=12.02, 2.43 Hz, 1 H) 4.01 - 4.16 (m, 1 H) 4.37 (dd, J=10.58, 2.67 Hz, 1 H) 7.10 (d, J=8.12 Hz, 1 H) 7.53 (dd, J=8.65, 4.17 Hz, 1 H) 8.04 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.65, 1.82 Hz, 1 H) 9.08 (dd, J=4.06, 1.71 Hz, 1 H)                                                                                                                      | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub> (M+H+): 310.15, found: 310.14 |
| ER-886625 | <br>C <sub>22</sub> H <sub>28</sub> FN <sub>3</sub> O <sub>2</sub> | 309.4 | 0.1570 | >20   | 5-((2R,6R)-2-methyl-6-propionylmorpholino)quinoline-8-carbonitrile                                              | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.02 - 1.16 (m, 3 H) 1.33 (d, J=6.20 Hz, 3 H) 2.58 - 2.86 (m, 5 H) 3.30 (dt, J=11.96, 2.14 Hz, 1 H) 3.62 (dt, J=12.02, 2.43 Hz, 1 H) 4.01 - 4.16 (m, 1 H) 4.37 (dd, J=10.58, 2.67 Hz, 1 H) 7.10 (d, J=8.12 Hz, 1 H) 7.53 (dd, J=8.65, 4.17 Hz, 1 H) 8.04 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.65, 1.82 Hz, 1 H) 9.08 (dd, J=4.06, 1.71 Hz, 1 H)                                                                                                                                  | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> (M+H+): 364.20, found: 365.32 |
| ER-886626 | <br>C <sub>22</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub>  | 363.5 | 0.0730 | >20   | 5-((2R,6R)-2-(cyclohexanecarbonyl)-6-methylmorpholino)quinoline-8-carbonitrile                                  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.15 - 1.44 (m, 9 H) 1.71 (d, J=11.54 Hz, 1 H) 1.75 - 1.90 (m, 2 H) 1.90 - 2.03 (m, 1 H) 2.68 (dd, J=11.96, 10.25 Hz, 1 H) 2.79 (dd, J=12.18, 10.68 Hz, 1 H) 2.90 - 3.11 (m, 1 H) 3.31 (dt, J=11.91, 2.06 Hz, 1 H) 3.61 (dt, J=12.07, 2.30 Hz, 1 H) 4.08 (dd, J=10.15, 6.30, 2.14 Hz, 1 H) 4.44 (dd, J=10.58, 2.67 Hz, 1 H) 7.11 (d, J=7.90 Hz, 1 H) 7.53 (dd, J=8.55, 4.27 Hz, 1 H) 8.06 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.55, 1.71 Hz, 1 H) 9.09 (dd, J=4.27, 1.71 Hz, 1 H) | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> (M+H+): 364.20, found: 365.32 |

FIG. 60

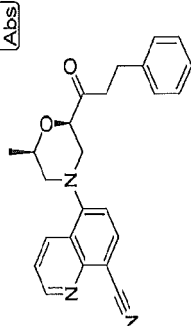
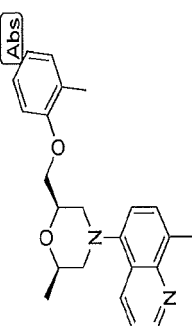
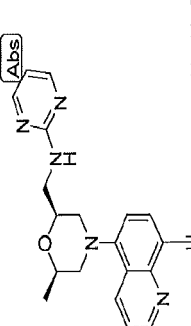
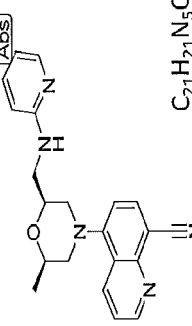
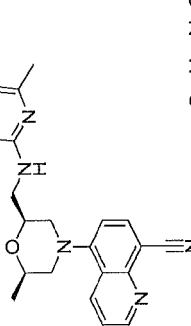
|           |                                                                                       |       |        |      |                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------|-------|--------|------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| ER-886629 |    | 385.5 | 0.1930 | >20  | 5-((2R,6R)-2-methyl-6-(3-phenylpropanoyl)morpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.32 (d, J=6.41 Hz, 3 H) 2.56 - 2.79 (m, 2 H) 2.88 - 2.98 (m, 2 H) 3.01 - 3.12 (m, 2 H) 3.29 (dt, J=11.96, 2.14 Hz, 1 H) 3.58 (dt, J=11.96, 2.35 Hz, 1 H) 3.97 - 4.15 (m, 1 H) 4.35 (dd, J=10.47, 2.78 Hz, 1 H) 7.07 (d, J=7.90 Hz, 1 H) 7.15 - 7.38 (m, 5 H) 7.53 (dd, J=8.55, 4.27 Hz, 1 H) 8.05 (d, J=7.90 Hz, 1 H) 8.44 (dd, J=8.65, 1.82 Hz, 1 H) 9.09 (dd, J=4.27, 1.71 Hz, 1 H)                                               | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>23</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 386.18, found: 386.15 |
| ER-886786 |    | 373.5 | 0.0090 | >2.0 | 5-((2R,6R)-2-methyl-6-((o-tolyl)oxy)methyl)morpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.29 (d, J=6.15 Hz, 4 H) 1.99 (s, 1 H) 2.03 - 2.13 (m, 2 H) 2.17 (s, 4 H) 2.72 (dd, J=11.72, 10.25 Hz, 1 H) 2.82 - 2.88 (m, 1 H) 3.30 - 3.34 (m, 1 H) 3.61 - 3.65 (m, 1 H) 3.93 - 3.98 (m, 1 H) 4.07 - 4.14 (m, 1 H) 4.17 - 4.21 (m, 1 H) 4.30 - 4.37 (m, 1 H) 6.80 - 6.88 (m, 2 H) 7.07 - 7.16 (m, 3 H) 7.24 (s, 1 H) 7.48 - 7.52 (m, 1 H) 8.04 (d, J=7.91 Hz, 1 H) 8.48 (dd, J=8.50, 1.76 Hz, 1 H) 9.07 (dd, J=4.39, 1.76 Hz, 1 H) |                                                                                                                                |
| ER-886787 |    | 360.4 | 0.0229 | >2.0 | 5-((2R,6S)-2-methyl-6-((pyrimidin-2-ylamino)methyl)morpholino)quinoline-8-carbonitrile       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                |
| ER-886788 |   | 359.4 | 0.0060 | >2.0 | 5-((2R,6S)-2-methyl-6-((pyridin-2-ylamino)methyl)morpholino)quinoline-8-carbonitrile         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                |
| ER-886789 |  | 373.5 | 0.0070 | >2.0 | 5-((2R,6S)-2-methyl-6-((6-methylpyridin-2-ylamino)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.15 (d, J=6.15 Hz, 7 H) 2.66 - 2.71 (m, 9 H) 2.94 (d, J=11.72 Hz, 1 H) 3.31 (s, 1 H) 4.84 - 4.85 (m, 61 H) 6.83 (d, J=6.74 Hz, 1 H) 6.96 (d, J=8.20 Hz, 1 H) 7.28 (s, 1 H) 7.30 (s, 1 H) 7.61 - 7.65 (m, 2 H) 7.73 (d, J=8.79 Hz, 1 H) 8.15 (s, 1 H) 8.17 (s, 1 H) 8.65 (s, 1 H) 8.67 (s, 1 H) 8.97 (d, J=2.64 Hz, 1 H)                                                                                                 |                                                                                                                                |

FIG. 6P

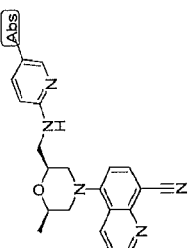
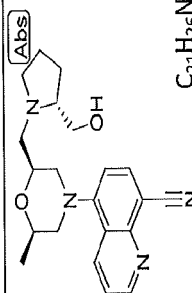
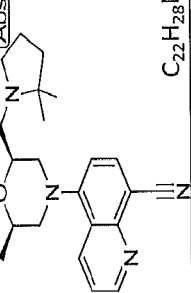
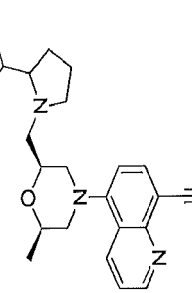
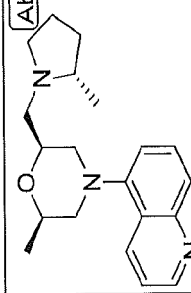
|           |                                                                                       |       |        |      |                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------------------------------------------------------|-------|--------|------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-886790 |    | 373.5 | 0.0085 | >2.0 | 5-((2R,6S)-2-methyl-6-(((5-methylpyridin-2-yl)amino)methyl)morpholino)quinoline-8-carbonitrile          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ER-886814 |    | 366.5 | 0.0720 | >2.0 | 5-((2S,6R)-2-(((R)-2-(hydroxymethyl)pyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ER-886815 |    | 364.5 | 0.3950 | >2.0 | 5-((2R,6R)-2-((2,2-dimethylpyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ER-886816 |   | 378.5 | 0.1970 | >2.0 | 5-((2S,6R)-2-((2-isopropylpyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile           | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.02 - 1.17 (m, 7 H) 1.28 - 1.34 (m, 4 H) 1.86 - 1.96 (m, 1 H) 2.04 - 2.28 (m, 4 H) 2.68 - 2.80 (m, 2 H) 3.26 - 3.51 (m, 8 H) 3.52 - 3.60 (m, 1 H) 3.73 - 3.81 (m, 1 H) 4.11 - 4.21 (m, 1 H) 4.35 - 4.44 (m, 1 H) 4.85 - 4.91 (m, 8 H) 7.23 - 7.28 (m, 1 H) 7.65 (dd, J=8.50, 4.10 Hz, 1 H) 8.15 (d, J=7.62 Hz, 1 H) 8.64 - 8.69 (m, 1 H) 8.98 (dd, J=4.10, 1.46 Hz, 1 H)                                                       |
| ER-886817 |  | 350.5 | 0.0600 | >2.0 | 5-((2R,6S)-2-methyl-6-(((S)-2-methylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.26 - 1.34 (m, 4 H) 1.48 (d, J=6.74 Hz, 3 H) 1.71 - 1.77 (m, 1 H) 1.98 - 2.14 (m, 3 H) 2.29 - 2.38 (m, 2 H) 2.67 - 2.81 (m, 4 H) 3.19 - 3.26 (m, 1 H) 3.33 (s, 1 H) 3.38 - 3.46 (m, 4 H) 3.52 (dd, J=13.48, 2.34 Hz, 1 H) 3.61 - 3.68 (m, 1 H) 3.81 - 3.88 (m, 1 H) 4.11 - 4.17 (m, 1 H) 4.32 - 4.39 (m, 1 H) 7.26 (d, J=7.91 Hz, 1 H) 7.61 - 7.65 (m, 1 H) 8.15 (d, J=7.91 Hz, 1 H) 8.63 - 8.67 (m, 1 H) 8.95 - 8.98 (m, 1 H) |

FIG. 6Q

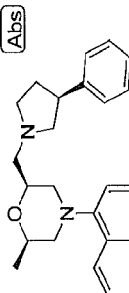
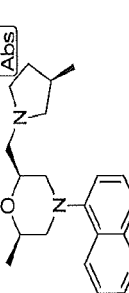
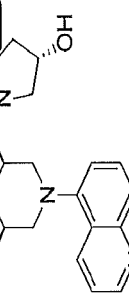
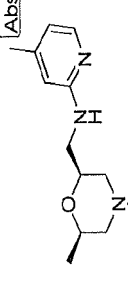
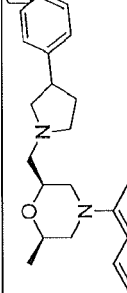
|           |                                                                                       |       |        |      |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------|-------|--------|------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-886818 |    | 412.5 | 0.0800 | >2.0 | 5-((2R,6S)-2-methyl-6-(((S)-3-phenylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.08 - 1.25 (m, 4 H) 1.30 (d, J=6.15 Hz, 4 H) 1.73 - 1.78 (m, 1 H) 2.66 - 2.82 (m, 3 H) 3.32 - 3.48 (m, 6 H) 4.02 - 4.24 (m, 1 H) 4.24 - 4.40 (m, 1 H) 7.26 (d, J=8.20 Hz, 1 H) 7.63 (dd, J=8.50, 4.39 Hz, 1 H) 8.06 - 8.23 (m, 1 H) 8.57 - 8.73 (m, 1 H) 8.97 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                                                |
| ER-886819 |    | 350.5 | 0.0360 | >2.0 | 5-((2R,6S)-2-methyl-6-(((R)-3-methylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ER-886820 |    | 352.4 | 0.0626 | >2.0 | 5-((2S,6R)-2-(((S)-3-hydroxypyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.28 (d, J=6.15 Hz, 4 H) 1.96 - 2.07 (m, 1 H) 2.12 (d, J=4.39 Hz, 1 H) 2.32 (t, J=8.20 Hz, 1 H) 2.64 - 2.79 (m, 4 H) 3.20 (d, J=12.31 Hz, 1 H) 3.29 - 3.54 (m, 7 H) 3.58 (d, J=11.72 Hz, 1 H) 3.75 - 3.89 (m, 2 H) 4.09 - 4.17 (m, 1 H) 4.35 (br. s., 1 H) 4.55 (d, J=15.23 Hz, 1 H) 4.81 - 4.87 (m, 7 H) 7.22 (d, J=8.20 Hz, 1 H) 7.57 - 7.62 (m, 1 H) 8.11 (d, J=7.91 Hz, 1 H) 8.61 (d, J=8.50 Hz, 1 H) 8.91 - 8.95 (m, 1 H)           |
| ER-886853 |   | 373.5 | 0.0040 | >2   | 5-((2R,6S)-2-methyl-6-(((4-methylpyridin-2-yl)amino)methyl)morpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.13 - 1.21 (m, 3 H) 2.34 - 2.39 (m, 3 H) 2.67 (dd, J=12.01, 10.25 Hz, 1 H) 2.76 - 2.83 (m, 1 H) 3.36 (d, J=12.01 Hz, 1 H) 3.53 (d, J=11.72 Hz, 1 H) 3.99 (ddd, J=10.25, 6.15, 2.34 Hz, 1 H) 4.21 - 4.37 (m, 3 H) 4.82 - 4.86 (m, 5 H) 6.76 (dd, J=7.03, 1.76 Hz, 1 H) 6.86 (s, 1 H) 7.22 - 7.27 (m, 1 H) 7.58 - 7.63 (m, 1 H) 7.79 (d, J=7.03 Hz, 1 H) 8.10 - 8.14 (m, 1 H) 8.60 - 8.65 (m, 1 H) 8.92 - 8.96 (m, 1 H)                   |
| ER-886854 |  | 412.5 | 0.0190 | >2   | 5-((2R,6S)-2-methyl-6-((3-phenylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile      | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.25 - 1.31 (m, 4 H) 2.50 - 2.53 (m, 1 H) 2.65 - 2.78 (m, 2 H) 3.24 (br. s., 1 H) 3.29 - 3.32 (m, 1 H) 3.41 (s, 1 H) 3.38 (s, 1 H) 3.44 - 3.54 (m, 3 H) 3.54 - 3.64 (m, 1 H) 3.73 (br. s., 1 H) 3.82 - 3.96 (m, 1 H) 3.99 - 4.09 (m, 1 H) 4.15 (br. s., 1 H) 4.37 (br. s., 1 H) 4.81 - 4.85 (m, 5 H) 7.22 - 7.31 (m, 2 H) 7.31 - 7.37 (m, 4 H) 7.61 (d, J=4.10 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.60 - 8.65 (m, 1 H) 8.95 (br. s., 1 H) |

FIG. 6R

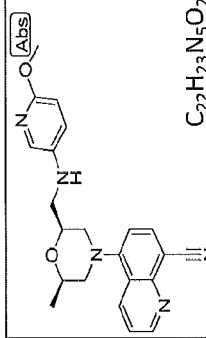
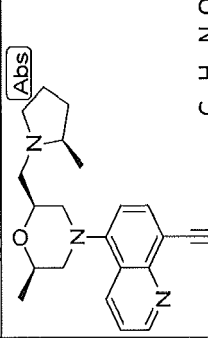
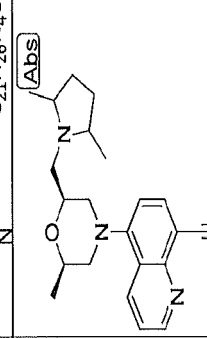
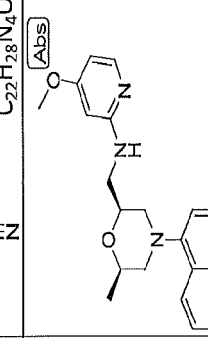
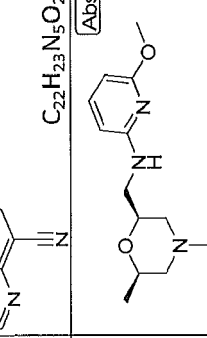
|           |                                                                                       |       |        |    |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------------------------------------------------------|-------|--------|----|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-886855 |    | 389.5 | 0.0260 | >2 | 5-((2S,6R)-2-(((6-methoxy-3-ylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 - 1.26 (m, 3 H) 2.60 - 2.67 (m, 1 H) 2.76 - 2.83 (m, 1 H) 3.29 - 3.43 (m, 5 H) 3.99 - 4.17 (m, 5 H) 4.83 - 4.87 (m, 5 H) 7.18 - 7.23 (m, 2 H) 7.59 (dd, <i>J</i> =8.50, 4.39 Hz, 1 H) 7.68 (d, <i>J</i> =2.64 Hz, 1 H) 7.76 - 7.81 (m, 1 H) 8.08 - 8.12 (m, 1 H) 8.56 - 8.61 (m, 1 H) 8.86 - 8.99 (m, 1 H)                                                                                                                                                                                                                                 |
| ER-886856 |    | 350.5 | 0.0760 | >2 | 5-((2R,6S)-2-methyl-6-(((R)-2-methylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.19 - 1.37 (m, 4 H) 1.37 - 1.53 (m, 3 H) 1.67 - 1.85 (m, 1 H) 2.01 - 2.20 (m, 2 H) 2.20 - 2.39 (m, 1 H) 2.58 - 2.86 (m, 3 H) 3.14 (d, <i>J</i> =12.89 Hz, 1 H) 3.33 - 3.59 (m, 5 H) 3.69 - 3.90 (m, 1 H) 4.04 - 4.22 (m, 1 H) 4.34 (t, <i>J</i> =10.25 Hz, 1 H) 7.14 - 7.30 (m, 1 H) 7.61 (ddd, <i>J</i> =8.50, 4.39, 0.88 Hz, 1 H) 8.12 (dd, <i>J</i> =8.20, 0.88 Hz, 1 H) 8.63 (dd, <i>J</i> =8.50, 1.46 Hz, 1 H) 8.86 - 9.07 (m, 1 H)                                                                                                       |
| ER-886857 |    | 364.5 | 0.1030 | >2 | 5-((2S,6R)-2-((2,5-dimethylpyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 - 1.30 (m, 4 H) 1.34 - 1.37 (m, 1 H) 1.46 - 1.51 (m, 5 H) 1.73 - 1.86 (m, 2 H) 2.23 - 2.32 (m, 2 H) 2.60 - 2.79 (m, 2 H) 3.24 - 3.45 (m, 6 H) 3.54 - 3.66 (m, 1 H) 3.69 - 3.84 (m, 2 H) 4.04 - 4.17 (m, 1 H) 4.33 - 4.41 (m, 1 H) 4.86 (s, 4 H) 7.19 - 7.25 (m, 1 H) 7.58 - 7.63 (m, 1 H) 8.09 - 8.13 (m, 1 H) 8.60 - 8.65 (m, 1 H) 8.92 - 8.96 (m, 1 H)                                                                                                                                                                                   |
| ER-886858 |   | 389.5 | 0.0080 | >2 | 5-((2S,6R)-2-(((4-methoxy-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.15 - 1.22 (m, 3 H) 2.65 (d, <i>J</i> =10.55 Hz, 1 H) 2.69 (s, 1 H) 2.75 - 2.82 (m, 1 H) 3.37 (s, 1 H) 3.94 (s, 1 H) 3.52 (d, <i>J</i> =11.43 Hz, 1 H) 3.92 - 4.02 (m, 4 H) 4.16 - 4.23 (m, 1 H) 4.26 - 4.34 (m, 2 H) 6.42 (d, <i>J</i> =2.64 Hz, 1 H) 6.53 - 6.56 (m, 1 H) 7.23 - 7.27 (m, 1 H) 7.59 - 7.70 (m, 1 H) 7.79 (d, <i>J</i> =7.62 Hz, 1 H) 8.11 - 8.15 (m, 1 H) 8.61 - 8.65 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                                                                                                          |
| ER-886859 |  | 389.5 | 0.0810 | >2 | 5-((2S,6R)-2-(((6-methoxy-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 - 1.25 (m, 3 H) 2.66 (dd, <i>J</i> =12.01, 10.25 Hz, 1 H) 2.76 - 2.82 (m, 1 H) 3.34 - 3.51 (m, 3 H) 3.56 (d, <i>J</i> =3.81 Hz, 1 H) 3.59 (d, <i>J</i> =3.81 Hz, 1 H) 3.96 - 3.98 (m, 3 H) 4.07 - 4.12 (m, 1 H) 4.18 (dd, <i>J</i> =6.74, 4.39 Hz, 1 H) 4.83 - 4.85 (m, 7 H) 6.27 (d, <i>J</i> =7.91 Hz, 1 H) 6.52 (d, <i>J</i> =8.50 Hz, 1 H) 7.23 (d, <i>J</i> =7.91 Hz, 1 H) 7.58 - 7.62 (m, 1 H) 7.74 - 7.79 (m, 1 H) 8.12 (d, <i>J</i> =7.91 Hz, 1 H) 8.61 (dd, <i>J</i> =8.50, 1.76 Hz, 1 H) 8.95 (dd, <i>J</i> =4.10, 1.76 Hz, 1 H) |

FIG. 6S

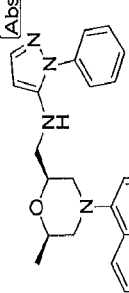
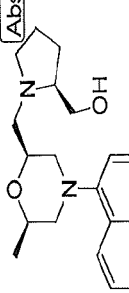
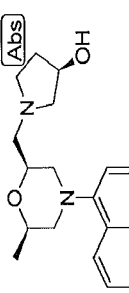
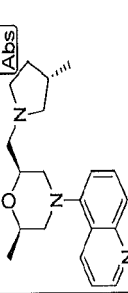
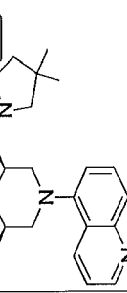
|           |                                                                                       |       |        |    |                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------------------------------------------------------|-------|--------|----|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-886860 |    | 424.5 | 0.3280 | >2 | 5-((2R,6S)-2-methyl-6-(((1-phenyl-1H-pyrazol-5-yl)amino)methyl)morpholino)quinoline-8-carbonitrile      | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.23 (d, <i>J</i> =6.45 Hz, 3 H) 2.52 - 2.59 (m, 1 H) 3.13 (s, 1 H) 3.16 (s, 1 H) 3.32 - 3.35 (m, 1 H) 3.98 - 4.08 (m, 3 H) 4.85 - 4.87 (m, 12 H) 6.02 (d, <i>J</i> =3.52 Hz, 1 H) 7.17 (d, <i>J</i> =7.91 Hz, 1 H) 7.58 - 7.63 (m, 2 H) 7.72 - 7.76 (m, 2 H) 8.11 (d, <i>J</i> =7.91 Hz, 1 H) 8.19 (d, <i>J</i> =3.52 Hz, 1 H) 8.50 (dd, <i>J</i> =8.50, 1.76 Hz, 1 H) 8.97 (dd, <i>J</i> =4.39, 1.76 Hz, 1 H) |
| ER-886866 |    | 366.5 | 0.1160 | >2 | 5-((2S,6R)-2-(((S)-2-(hydroxymethyl)pyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.25 - 1.29 (m, 3 H) 1.85 - 1.94 (m, 1 H) 2.00 - 2.26 (m, 3 H) 2.64 - 2.77 (m, 2 H) 3.26 - 3.40 (m, 14 H) 3.59 - 3.71 (m, 2 H) 3.74 - 3.83 (m, 2 H) 3.87 - 3.92 (m, 1 H) 4.09 - 4.17 (m, 1 H) 4.32 - 4.39 (m, 1 H) 4.82 (s, 1 H) 4.87 (d, <i>J</i> =0.88 Hz, 11 H) 7.20 - 7.24 (m, 1 H) 7.58 - 7.62 (m, 1 H) 8.08 - 8.12 (m, 1 H) 8.60 - 8.64 (m, 1 H) 8.92 - 8.95 (m, 1 H)                                     |
| ER-886867 |    | 352.4 | 0.0870 | >2 | 5-((2S,6R)-2-(((R)-3-hydroxypyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ER-886868 |   | 350.5 | 0.0370 | >2 | 5-((2R,6S)-2-methyl-6-(((S)-3-methylpyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.12 - 1.21 (m, 3 H) 1.28 (d, <i>J</i> =6.15 Hz, 3 H) 2.65 - 2.76 (m, 2 H) 3.30 - 3.49 (m, 5 H) 3.75 - 3.81 (m, 1 H) 4.10 - 4.16 (m, 1 H) 4.82 - 4.85 (m, 5 H) 7.24 (d, <i>J</i> =7.91 Hz, 1 H) 7.61 (dd, <i>J</i> =8.50, 4.39 Hz, 1 H) 8.13 (d, <i>J</i> =8.20 Hz, 1 H) 8.62 (d, <i>J</i> =8.50 Hz, 1 H) 8.94 - 8.97 (m, 1 H)                                                                                  |
| ER-886869 |  | 364.5 | 0.0310 | >2 | 5-((2S,6R)-2-((3,3-dimethylpyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.19 - 1.29 (m, 9 H) 1.86 - 1.93 (m, 1 H) 1.95 - 1.99 (m, 1 H) 2.65 - 2.74 (m, 2 H) 2.96 - 3.05 (m, 1 H) 3.08 (s, 1 H) 3.30 - 3.52 (m, 7 H) 3.75 - 3.81 (m, 1 H) 4.10 - 4.15 (m, 1 H) 4.32 (d, <i>J</i> =8.20 Hz, 1 H) 4.83 - 4.85 (m, 5 H) 7.24 (d, <i>J</i> =8.20 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.11 - 8.14 (m, 1 H) 8.62 (dd, <i>J</i> =8.50, 1.76 Hz, 1 H) 8.94 - 8.96 (m, 1 H)                             |

FIG. 6T

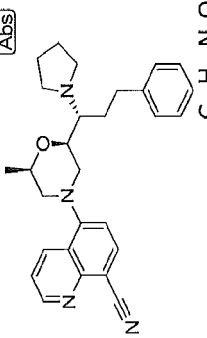
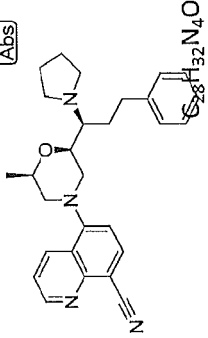
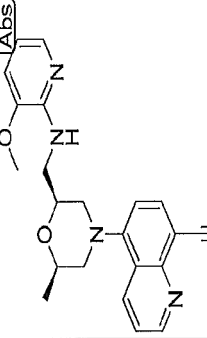
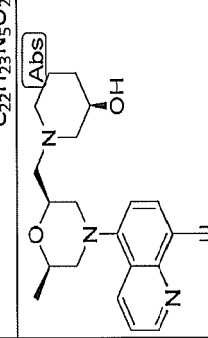
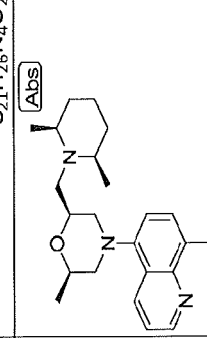
|           |                                                                                                                                                       |       |        |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                   |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-886912 | <br>C <sub>28</sub> H <sub>32</sub> N <sub>4</sub> O               | 440.6 | 0.5480 | 5-((2R,6R)-2-methyl-6-((R)-3-phenyl-1-(pyrrolidin-1-yl)propyl)morpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.21 - 1.32 (m, 5 H) 1.72 (d, <i>J</i> =5.77 Hz, 4 H) 1.85 - 1.98 (m, 2 H) 2.59 - 2.83 (m, 6 H) 3.28 (d, <i>J</i> =12.18 Hz, 1 H) 3.46 - 3.55 (m, 1 H) 3.98 (br. s., 2 H) 7.07 (t, <i>J</i> =7.16 Hz, 1 H) 7.14 - 7.34 (m, 5 H) 7.49 (dt, <i>J</i> =8.92, 4.62 Hz, 1 H) 8.04 (d, <i>J</i> =8.12 Hz, 1 H) 8.45 (d, <i>J</i> =8.55 Hz, 1 H) 9.03 - 9.11 (m, 1 H)                                                                                                                                                                       | LCMS (ESI+) calcd for C <sub>28</sub> H <sub>32</sub> N <sub>4</sub> O (M+H <sup>+</sup> ): 441.26, found: 441.33 |
| ER-886913 | <br>C <sub>28</sub> H <sub>32</sub> N <sub>4</sub> O               | 440.6 | 1.8930 | 5-((2R,6R)-2-methyl-6-((S)-3-phenyl-1-(pyrrolidin-1-yl)propyl)morpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.16 (d, <i>J</i> =6.15 Hz, 4 H) 2.67 (dd, <i>J</i> =12.01, 10.25 Hz, 1 H) 2.78 - 2.85 (m, 1 H) 3.36 (d, <i>J</i> =12.01 Hz, 1 H) 3.54 (d, <i>J</i> =11.43 Hz, 1 H) 3.96 - 4.03 (m, 5 H) 4.34 - 4.43 (m, 3 H) 4.82 - 4.86 (m, 7 H) 6.82 - 6.86 (m, 1 H) 7.26 (d, <i>J</i> =8.20 Hz, 1 H) 7.36 (d, <i>J</i> =7.62 Hz, 1 H) 7.52 - 7.55 (m, 1 H) 7.62 (dd, <i>J</i> =8.50, 4.10 Hz, 1 H) 8.14 (d, <i>J</i> =8.20 Hz, 1 H) 8.64 (dd, <i>J</i> =8.50, 1.76 Hz, 1 H) 8.94 - 8.97 (m, 1 H)                                      |                                                                                                                   |
| ER-886948 | <br>C <sub>22</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub>  | 389.5 | 0.0030 | 5-((2S,6R)-2-((3-methoxypyridin-2-yl)amino)methyl-6-methylmorpholino)quinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.23 - 1.29 (m, 4 H) 1.69 (br. s., 1 H) 1.72 - 1.87 (m, 2 H) 2.63 - 2.76 (m, 2 H) 3.13 (br. s., 1 H) 3.16 - 3.26 (m, 3 H) 3.30 - 3.45 (m, 4 H) 3.70 (d, <i>J</i> =12.31 Hz, 1 H) 4.16 (br. s., 1 H) 4.40 (d, <i>J</i> =9.96 Hz, 1 H) 4.81 - 4.85 (m, 7 H) 7.24 (d, <i>J</i> =7.62 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.13 (d, <i>J</i> =7.91 Hz, 1 H) 8.59 - 8.64 (m, 1 H) 8.96 (d, <i>J</i> =4.39 Hz, 1 H)                                                                                                                    |                                                                                                                   |
| ER-886949 | <br>C <sub>21</sub> H <sub>26</sub> N <sub>4</sub> O <sub>2</sub> | 366.5 | 0.1450 | 5-((2S,6R)-2-((2R,6S)-2,6-dimethylpiperidin-1-yl)methyl-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.23 - 1.28 (m, 3 H) 1.34 - 1.36 (m, 2 H) 1.38 - 1.42 (m, 3 H) 1.47 (d, <i>J</i> =5.57 Hz, 1 H) 1.61 - 1.68 (m, 1 H) 1.80 (s, 1 H) 2.62 - 2.71 (m, 1 H) 2.74 (s, 1 H) 2.76 - 2.82 (m, 1 H) 3.05 - 3.11 (m, 1 H) 3.34 (d, <i>J</i> =14.65 Hz, 1 H) 3.42 (s, 1 H) 3.38 (s, 1 H) 3.46 - 3.56 (m, 1 H) 4.11 (d, <i>J</i> =9.67 Hz, 1 H) 4.84 (d, <i>J</i> =1.17 Hz, 12 H) 7.25 (d, <i>J</i> =7.91 Hz, 1 H) 7.62 (dd, <i>J</i> =8.79, 4.39 Hz, 1 H) 8.14 (d, <i>J</i> =7.91 Hz, 1 H) 8.60 - 8.64 (m, 1 H) 8.95 - 8.97 (m, 1 H) |                                                                                                                   |
| ER-886950 | <br>C <sub>23</sub> H <sub>30</sub> N <sub>4</sub> O             | 378.5 | 0.7360 | 5-((2S,6R)-2-((R)-3-phenyl-1-(pyrrolidin-1-yl)propyl)morpholino)quinoline-8-carbonitrile            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                   |

FIG. 6U

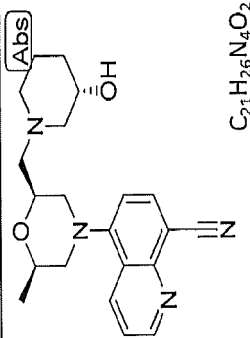
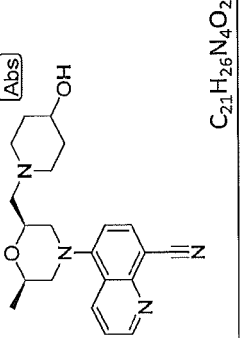
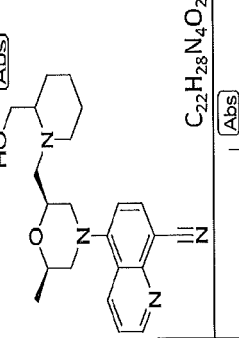
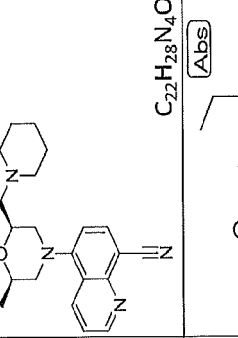
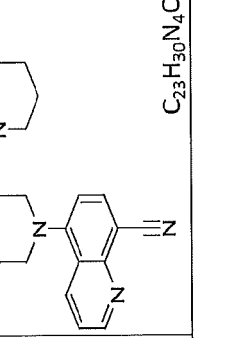
|           |                                                                                       |       |        |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|---------------------------------------------------------------------------------------|-------|--------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-886951 |    | 366.5 | 0.6320 | 5-((2S,6R)-2-(((S)-3-hydroxypiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=6.45 Hz, 1 H) 3.22 (s, 7 H) 3.38 (s, 1 H) 4.81 - 4.85 (m, 115 H) 7.25 (d, J=8.20 Hz, 2 H) 7.62 (dd, J=8.50, 4.10 Hz, 2 H) 8.14 (d, J=8.20 Hz, 2 H) 8.63 (d, J=7.03 Hz, 1 H) 8.95 (s, 1 H)                                                                                                                                                                                                                            |
| ER-886953 |    | 366.5 | 0.0930 | 5-((2S,6R)-2-((4-hydroxypiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (d, J=6.15 Hz, 3 H) 1.70 - 1.84 (m, 1 H) 1.86 - 2.14 (m, 2 H) 2.63 - 2.75 (m, 2 H) 3.07 - 3.16 (m, 1 H) 3.20 - 3.26 (m, 1 H) 3.29 - 3.40 (m, 5 H) 3.44 - 3.51 (m, 1 H) 3.67 (d, J=7.91 Hz, 1 H) 3.80 - 3.86 (m, 1 H) 4.05 - 4.17 (m, 2 H) 4.37 - 4.47 (m, 1 H) 4.86 (s, 1 H) 4.89 - 4.92 (m, 4 H) 7.21 (d, J=7.91 Hz, 1 H) 7.56 - 7.61 (m, 1 H) 8.09 (d, J=7.91 Hz, 1 H) 8.60 (d, J=8.50 Hz, 1 H) 8.93 (d, J=4.10 Hz, 1 H) |
| ER-886955 |    | 380.5 | 0.1840 | 5-((2S,6R)-2-((2-(hydroxymethyl)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 - 1.29 (m, 4 H) 1.58 - 1.72 (m, 2 H) 1.75 - 1.95 (m, 5 H) 2.63 - 2.79 (m, 2 H) 3.20 - 3.25 (m, 1 H) 3.29 - 3.42 (m, 4 H) 3.46 - 3.59 (m, 1 H) 3.61 - 3.74 (m, 2 H) 3.89 - 3.93 (m, 1 H) 4.08 - 4.16 (m, 1 H) 4.43 - 4.49 (m, 1 H) 4.82 - 4.85 (m, 6 H) 7.22 - 7.26 (m, 1 H) 7.59 - 7.63 (m, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.60 - 8.64 (m, 1 H) 8.95 (d, J=4.39 Hz, 1 H)                                                    |
| ER-886957 |   | 364.5 | 0.0500 | 5-((2R,6S)-2-methyl-6-((2-methylpiperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 - 1.35 (m, 5 H) 1.39 - 1.45 (m, 2 H) 1.60 - 1.65 (m, 1 H) 1.82 (d, J=13.48 Hz, 1 H) 1.93 (br. s., 1 H) 2.63 - 2.79 (m, 2 H) 3.13 - 3.26 (m, 2 H) 3.29 - 3.51 (m, 5 H) 3.76 (d, J=12.89 Hz, 1 H) 4.11 - 4.16 (m, 1 H) 4.30 - 4.42 (m, 1 H) 4.85 (s, 5 H) 7.25 (d, J=7.91 Hz, 1 H) 7.62 (dd, J=8.50, 4.10 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.61 - 8.66 (m, 1 H) 8.96 (dd, J=4.39, 1.76 Hz, 1 H)                             |
| ER-886958 |  | 378.5 | 0.0840 | 5-((2S,6R)-2-((2-ethylpiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile           | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.98 - 1.04 (m, 3 H) 1.24 - 1.29 (m, 3 H) 1.57 - 1.69 (m, 1 H) 1.73 - 1.96 (m, 3 H) 2.64 - 2.79 (m, 2 H) 3.08 - 3.26 (m, 2 H) 3.29 - 3.49 (m, 3 H) 3.52 - 3.55 (m, 1 H) 3.74 (d, J=13.18 Hz, 1 H) 4.10 - 4.17 (m, 1 H) 4.41 (s, 1 H) 4.85 - 4.88 (m, 4 H) 7.24 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (d, J=8.20 Hz, 1 H) 8.60 - 8.66 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                           |

FIG. 6V

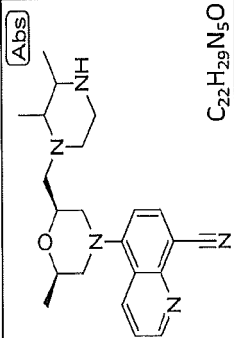
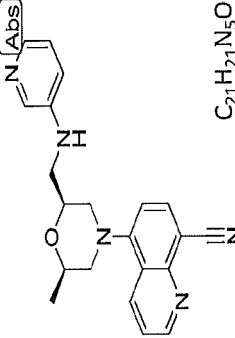
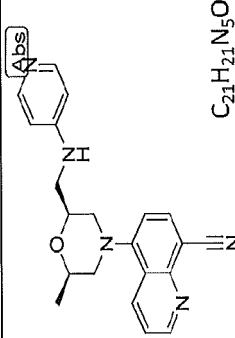
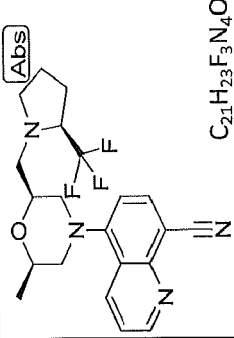
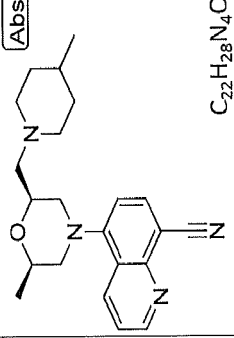
|           |                                                                                       |       |        |             |                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                           |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| ER-887137 |    | 379.5 | 0.0157 | > 10 < 20.9 | 5-((2S,6R)-2-((2,3-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile             | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 - 1.41 (m, 11 H) 2.63 - 2.76 (m, 2 H) 3.05 - 3.11 (m, 1 H) 3.33 - 3.46 (m, 4 H) 3.52 (s, 1 H) 3.72 - 3.77 (m, 1 H) 4.07 - 4.12 (m, 1 H) 7.21 - 7.25 (m, 1 H) 7.59 - 7.63 (m, 1 H) 8.11 - 8.14 (m, 1 H) 8.59 - 8.64 (m, 1 H) 8.95 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                                         |                                                           |
| ER-887138 |    | 359.4 | 0.0440 | > 2.0       | 5-((2R,6S)-2-methyl-6-((pyridin-3-ylamino)methyl)morpholino)quinoline-8-carbonitrile                      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.18 - 1.23 (m, 3 H) 2.63 - 2.69 (m, 1 H) 2.71 - 2.82 (m, 1 H) 3.36 (d, J=10.84 Hz, 1 H) 3.53 (d, J=10.84 Hz, 1 H) 3.97 - 4.05 (m, 1 H) 4.33 - 4.40 (m, 1 H) 4.43 - 4.49 (m, 1 H) 4.68 (d, J=13.48 Hz, 1 H) 4.86 (d, J=1.17 Hz, 4 H) 7.25 (dd, J=8.20, 1.17 Hz, 1 H) 7.60 - 7.68 (m, 3 H) 8.02 - 8.05 (m, 1 H) 8.07 - 8.15 (m, 2 H) 8.61 - 8.66 (m, 1 H) 8.96 (dt, J=4.10, 1.46 Hz, 1 H) |                                                           |
| ER-887139 |    | 359.4 | 0.0080 | > 2.0       | 5-((2R,6S)-2-methyl-6-((pyridin-4-ylamino)methyl)morpholino)quinoline-8-carbonitrile                      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.19 (d, J=6.15 Hz, 3 H) 2.60 - 2.72 (m, 2 H) 3.35 (d, J=12.01 Hz, 1 H) 3.47 (d, J=11.43 Hz, 1 H) 3.96 - 4.03 (m, 1 H) 4.14 - 4.20 (m, 1 H) 4.22 - 4.28 (m, 1 H) 4.34 (d, J=2.05 Hz, 1 H) 4.38 (s, 1 H) 4.85 - 4.87 (m, 5 H) 6.80 - 6.83 (m, 2 H) 7.24 (d, J=8.20 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.05 - 8.09 (m, 2 H) 8.12 (d, J=7.91 Hz, 1 H) 8.61 - 8.65 (m, 1 H) 8.95 - 8.97 (m, 1 H)  |                                                           |
| ER-887140 |   | 404.4 | 0.3086 | > 2.0       | 5-((2R,6S)-2-methyl-6-(((S)-2-(trifluoromethyl)pyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.20 - 1.25 (m, 4 H) 2.64 (d, J=9.96 Hz, 1 H) 2.75 (d, J=10.55 Hz, 1 H) 2.79 (s, 1 H) 3.09 (s, 1 H) 3.15 - 3.19 (m, 1 H) 3.30 - 3.40 (m, 4 H) 4.08 (d, J=7.03 Hz, 1 H) 4.80 - 4.86 (m, 9 H) 7.22 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.13 (d, J=8.20 Hz, 1 H) 8.62 (dd, J=8.50, 1.76 Hz, 1 H) 8.93 - 8.96 (m, 1 H)                                                       |                                                           |
| ER-887141 |  | 364.5 | 0.0630 | > 2.0       | 5-((2R,6S)-2-methyl-6-((4-methylpiperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.99 (3 H, d) 1.27 (3 H, d) 1.40 - 1.60 (2 H, m) 1.63 - 1.76 (1 H, m) 1.83 - 2.03 (2 H, m) 2.60 - 2.77 (2 H, m) 2.96 - 3.09 (2 H, m) 3.23 - 3.26 (2 H, m) 3.32 - 3.46 (2 H, m) 3.60 - 3.72 (2 H, m) 4.08 - 4.24 (1 H, m) 4.33 - 4.49 (1 H, m) 7.19 - 7.26 (1 H, m) 7.56 - 7.66 (1 H, m) 8.08 - 8.17 (1 H, m) 8.56 - 8.66 (1 H, m) 8.90 - 8.99 (1 H, m)                                   | LCMS (ESI+) calcd for C22H28N4O (M+H+) 365.4, found 365.2 |

FIG. 6W

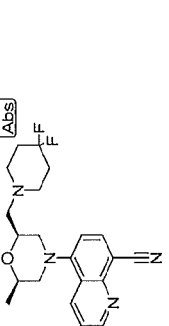
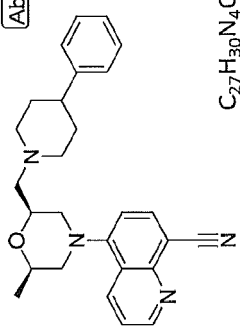
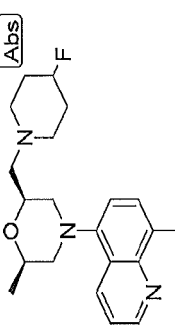
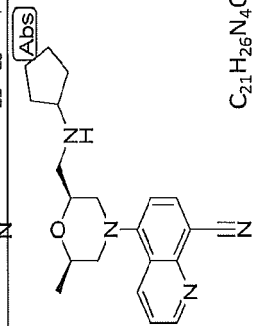
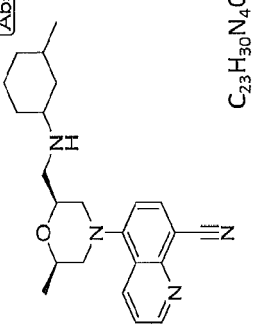
|           |                                                                                                                                                                 |       |        |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| ER-887142 | <br>C <sub>21</sub> H <sub>24</sub> F <sub>2</sub> N <sub>4</sub> O<br>(Abs) | 386.4 | 0.1060 | > 2.0 | 5-((2S,6R)-2-((4,4-difluoropiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=5.57 Hz, 3 H) 1.33 (s, 1 H) 2.39 (br. s., 3 H) 2.45 (br. s., 1 H) 2.66 - 2.76 (m, 2 H) 3.33 - 3.43 (m, 4 H) 4.11 - 4.19 (m, 1 H) 4.41 - 4.48 (m, 1 H) 7.22 (d, J=7.91 Hz, 1 H) 7.58 - 7.62 (m, 1 H) 8.09 - 8.13 (m, 1 H) 8.61 (d, J=8.79 Hz, 1 H) 8.93 - 8.95 (m, 1 H)                                                                                                                                                                       | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>30</sub> N <sub>4</sub> O (M+H <sup>+</sup> ) 427.5, found 427.6  |
| ER-887143 | <br>C <sub>27</sub> H <sub>30</sub> N <sub>4</sub> O<br>(Abs)                | 426.6 | 0.0430 | > 2.0 | 5-((2R,6S)-2-methyl-6-((4-phenylpiperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.29 (3 H, d) 1.97 - 2.20 (4 H, m) 2.63 - 2.80 (2 H, m) 2.83 - 2.96 (1 H, m) 3.14 - 3.26 (2 H, m) 3.34 - 3.56 (4 H, m) 3.72 - 3.86 (2 H, m) 4.08 - 4.22 (1 H, m) 4.38 - 4.56 (1 H, m) 7.14 - 7.38 (6 H, m) 7.55 - 7.66 (1 H, m) 8.05 - 8.16 (1 H, m) 8.57 - 8.66 (1 H, m) 8.88 - 8.99 (1 H, m)                                                                                                                                                          | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>30</sub> N <sub>4</sub> O (M+H <sup>+</sup> ) 427.5, found 427.6  |
| ER-887144 | <br>C <sub>27</sub> H <sub>30</sub> FN <sub>4</sub> O<br>(Abs)               | 368.5 | 0.0760 | > 2.0 | 5-((2S,6R)-2-((4-fluoropiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (3 H, d) 1.95 - 2.39 (5 H, m) 2.62 - 2.83 (2 H, m) 3.27 - 3.39 (2 H, m) 3.51 - 3.77 (2 H, m) 4.05 - 4.21 (2 H, m) 4.35 - 4.55 (3 H, m) 4.99 - 5.08 (1 H, m) 7.23 (1 H, d) 7.55 - 7.67 (1 H, m) 8.06 - 8.17 (1 H, m) 8.62 (1 H, d) 8.87 - 8.98 (1 H, m)                                                                                                                                                                                             | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>30</sub> FN <sub>4</sub> O (M+H <sup>+</sup> ) 369.4, found 369.2 |
| ER-887145 | <br>C <sub>21</sub> H <sub>25</sub> FN <sub>4</sub> O<br>(Abs)              | 350.5 | 0.0870 | > 2.0 | 5-((2S,6R)-2-((cyclopentylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile           | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=6.15 Hz, 4 H) 1.61 - 1.71 (m, 4 H) 1.81 (br. s., 2 H) 2.09 - 2.16 (m, 2 H) 2.65 - 2.77 (m, 2 H) 3.07 - 3.14 (m, 1 H) 3.22 - 3.26 (m, 1 H) 3.37 - 3.42 (m, 2 H) 3.58 (t, J=7.32 Hz, 1 H) 4.07 - 4.15 (m, 1 H) 4.20 - 4.27 (m, 1 H) 4.85 - 4.87 (m, 5 H) 7.24 (d, J=8.20 Hz, 1 H) 7.60 - 7.64 (m, 1 H) 8.13 (d, J=8.20 Hz, 1 H) 8.60 - 8.63 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                                                      |                                                                                                                |
| ER-887146 | <br>C <sub>23</sub> H <sub>30</sub> N <sub>4</sub> O<br>(Abs)              | 378.5 | 0.0680 | > 2.0 | 5-((2R,6S)-2-methyl-6-((3-methylcyclohexylamino)methyl)morpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.86 - 1.10 (m, 5 H) 1.25 - 1.40 (m, 4 H) 1.47 - 1.54 (m, 1 H) 1.62 (s, 1 H) 1.67 - 1.76 (m, 1 H) 1.85 - 1.91 (m, 1 H) 2.09 (d, J=5.27 Hz, 2 H) 2.64 - 2.77 (m, 2 H) 3.09 - 3.17 (m, 2 H) 3.22 - 3.26 (m, 1 H) 3.37 - 3.43 (br. s., 1 H) 4.07 - 4.15 (m, 1 H) 4.20 - 4.27 (m, 1 H) 4.88 (br. s., 1 H) 7.23 (d, J=8.20 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.61 (dd, J=8.50, 1.76 Hz, 1 H) 8.95 (dd, J=4.39, 1.76 Hz, 1 H) |                                                                                                                |

FIG. 6X

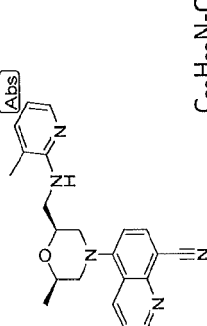
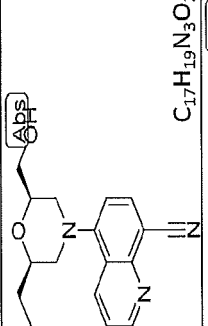
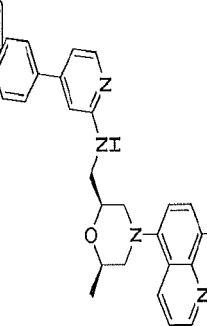
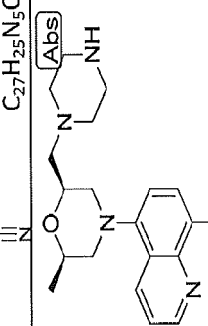
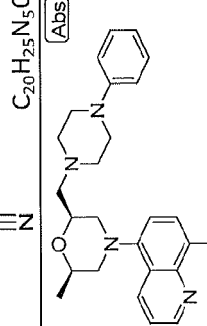
|           |                                                                                       |       |        |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                            |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| ER-887177 |    | 373.5 | 0.0030 | > 2.0 | 5-((2R,6S)-2-methyl-6-((3-methylpyridin-2-yl)amino)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.12 - 1.16 (m, 3 H) 2.24 - 2.28 (m, 3 H) 2.61 - 2.68 (m, 1 H) 2.77 - 2.84 (m, 1 H) 3.24 - 3.26 (m, 1 H) 3.31 - 3.36 (m, 1 H) 3.55 (d, J=11.72 Hz, 1 H) 3.94 - 4.01 (m, 1 H) 4.30 - 4.47 (m, 3 H) 4.82 - 4.87 (m, 5 H) 6.80 - 6.85 (m, 1 H) 7.19 - 7.24 (m, 1 H) 7.56 - 7.61 (m, 1 H) 7.74 (d, J=7.32 Hz, 1 H) 7.83 (d, J=6.74 Hz, 1 H) 8.07 - 8.11 (m, 1 H) 8.57 - 8.62 (m, 1 H) 8.90 - 8.93 (m, 1 H) | LCMS (ESI+) calcd for C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 298.3, found 298.4 |
| ER-887199 |    | 297.4 | 0.1050 | > 2.0 | 5-((2R,6R)-2-ethyl-6-((hydroxymethyl)morpholino)quinoline-8-carbonitrile                      | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 0.99 (3 H, t) 1.43 - 1.68 (2 H, m) 2.60 - 2.73 (1 H, m) 2.74 - 2.89 (1 H, m) 3.31 - 3.46 (2 H, m) 3.76 - 3.88 (1 H, m) 4.21 - 4.29 (1 H, m) 4.48 (2 H, br. s.) 7.24 (1 H, s) 7.53 - 7.67 (1 H, m) 7.96 - 8.19 (1 H, m) 8.53 - 8.70 (1 H, m) 8.88 - 9.04 (1 H, m)                                                                                                                                       |                                                                                                                            |
| ER-887252 |    | 435.5 | 0.0066 | > 2.0 | 5-((2R,6S)-2-methyl-6-((4-phenylpyridin-2-yl)amino)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.16 - 1.22 (m, 4 H) 2.70 (dd, J=12.01, 10.25 Hz, 1 H) 2.79 - 2.88 (m, 1 H) 3.31 - 3.39 (m, 1 H) 3.57 (d, J=11.43 Hz, 1 H) 4.00 - 4.06 (m, 1 H) 4.29 - 4.44 (m, 3 H) 4.80 - 4.85 (m, 5 H) 7.20 - 7.33 (m, 3 H) 7.52 - 7.64 (m, 4 H) 7.74 - 7.79 (m, 2 H) 7.99 (d, J=7.03 Hz, 1 H) 8.11 - 8.15 (m, 1 H) 8.29 (br. s., 1 H) 8.62 - 8.67 (m, 1 H) 8.93 - 8.97 (m, 1 H)                                    |                                                                                                                            |
| ER-887253 |   | 351.5 | 0.0072 |       | 5-((2R,6S)-2-methyl-6-((piperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile             | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.25 (d, J=6.15 Hz, 4 H) 1.96 - 2.04 (m, 1 H) 2.27 - 2.34 (m, 1 H) 2.64 - 2.79 (m, 3 H) 3.25 (br. s., 1 H) 3.29 - 3.43 (m, 5 H) 3.48 (s, 1 H) 3.52 - 3.63 (m, 9 H) 4.07 - 4.14 (m, 1 H) 4.38 - 4.46 (m, 1 H) 7.16 - 7.24 (m, 1 H) 7.57 - 7.67 (m, 1 H) 8.08 - 8.13 (m, 1 H) 8.58 - 8.62 (m, 1 H) 8.94 (dd, J=4.39, 1.76 Hz, 1 H)                                                                       |                                                                                                                            |
| ER-887258 |  | 427.6 | 0.0852 | > 2.0 | 5-((2R,6S)-2-methyl-6-((4-phenylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.29 (d, J=6.15 Hz, 3 H) 2.67 - 2.79 (m, 2 H) 3.30 - 3.43 (m, 7 H) 4.13 - 4.19 (m, 1 H) 4.44 - 4.51 (m, 1 H) 4.82 - 4.86 (m, 5 H) 6.88 - 6.93 (m, 1 H) 6.98 - 7.03 (m, 2 H) 7.22 - 7.29 (m, 3 H) 7.59 - 7.64 (m, 1 H) 8.11 - 8.15 (m, 1 H) 8.61 - 8.65 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                                                                                                   |                                                                                                                            |

FIG. 6Y

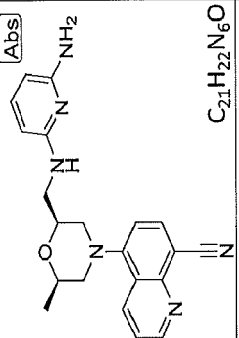
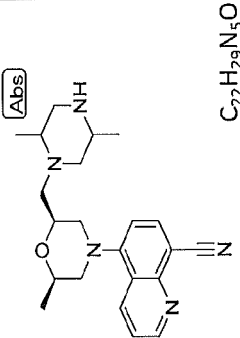
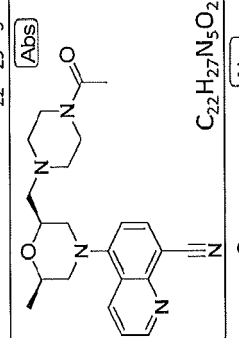
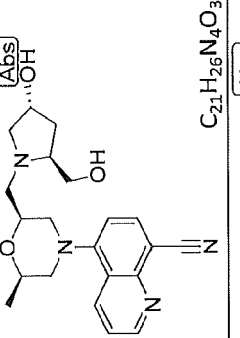
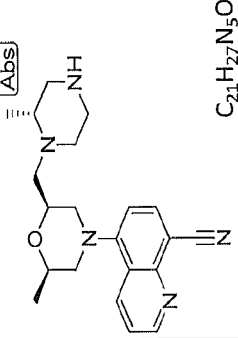
|           |                                                                                                                                                       |       |        |       |                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-887259 | <br>C <sub>22</sub> H <sub>22</sub> N <sub>6</sub> O               | 374.4 | 0.0019 | > 2.0 | 5-((2S,6R)-2-(((6-aminopyridin-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.20 - 1.24 (m, 4 H) 2.61 - 2.68 (m, 1 H) 2.77 - 2.84 (m, 1 H) 3.34 - 3.43 (m, 4 H) 3.47 - 3.52 (m, 1 H) 4.05 - 4.19 (m, 2 H) 4.84 - 4.87 (m, 6 H) 5.96 - 6.04 (m, 2 H) 7.22 (d, J=7.91 Hz, 1 H) 7.51 - 7.62 (m, 2 H) 8.11 (d, J=7.91 Hz, 1 H) 8.59 - 8.63 (m, 1 H) 8.92 - 8.95 (m, 1 H)                                                                                                                                                              |
| ER-887260 | <br>C <sub>21</sub> H <sub>22</sub> N <sub>6</sub> O               | 379.5 | 0.0901 | > 2.0 | 5-((2S,6R)-2-((2,5-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=6.15 Hz, 4 H) 1.61 - 1.71 (m, 4 H) 1.81 (br. s., 2 H) 2.09 - 2.16 (m, 2 H) 2.65 - 2.77 (m, 2 H) 3.07 - 3.14 (m, 1 H) 3.22 - 3.26 (m, 1 H) 3.37 - 3.42 (m, 2 H) 3.58 (t, J=7.32 Hz, 1 H) 4.07 - 4.15 (m, 1 H) 4.20 - 4.27 (m, 1 H) 4.85 - 4.87 (m, 5 H) 7.24 (d, J=8.20 Hz, 1 H) 7.60 - 7.64 (m, 1 H) 8.13 (d, J=8.20 Hz, 1 H) 8.60 - 8.63 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                                                    |
| ER-887261 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O               | 393.5 | 0.0917 | > 2.0 | 5-((2S,6R)-2-((4-acetylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ER-887262 | <br>C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> | 382.5 | 0.2720 | > 2.0 | 5-((2S,6R)-2-((2S,4R)-4-hydroxy-2-((hydroxymethyl)pyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 - 1.34 (m, 3 H) 1.98 - 2.05 (m, 1 H) 2.07 - 2.16 (m, 2 H) 2.30 - 2.34 (m, 1 H) 2.66 - 2.79 (m, 3 H) 3.31 (s, 1 H) 3.36 - 3.44 (m, 5 H) 3.64 - 3.68 (m, 1 H) 3.70 (s, 1 H) 3.74 - 3.84 (m, 2 H) 3.95 (d, J=3.81 Hz, 1 H) 3.97 - 4.02 (m, 1 H) 4.11 - 4.15 (m, 1 H) 4.34 - 4.40 (m, 1 H) 4.53 (br. s., 1 H) 7.25 (d, J=7.91 Hz, 1 H) 7.52 (dd, J=8.50, 4.39 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.63 - 8.66 (m, 1 H) 8.96 (dd, J=4.10, 1.76 Hz, 1 H) |
| ER-887268 | <br>C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O             | 365.5 | 0.0360 | > 2.0 | 5-((2R,6S)-2-methyl-6-(((R)-2-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 - 1.27 (m, 3 H) 1.34 - 1.44 (m, 4 H) 1.98 - 2.04 (m, 1 H) 2.30 - 2.34 (m, 1 H) 2.64 - 2.71 (m, 1 H) 2.74 - 2.80 (m, 2 H) 3.10 - 3.25 (m, 2 H) 3.36 - 3.51 (m, 6 H) 3.55 - 3.63 (m, 3 H) 3.81 - 3.86 (m, 1 H) 4.08 - 4.14 (m, 1 H) 4.35 - 4.41 (m, 1 H) 7.22 - 7.25 (m, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.61 - 8.64 (m, 1 H) 8.95 (dd, J=4.10, 1.76 Hz, 1 H)                                                        |

FIG. 6Z

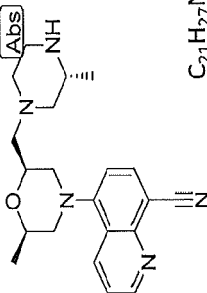
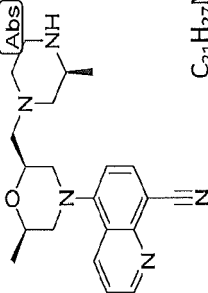
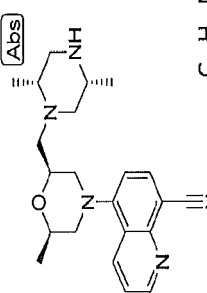
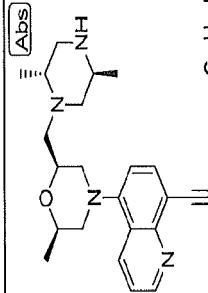
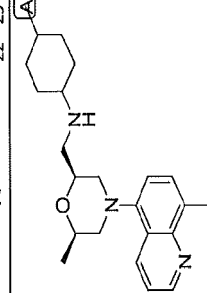
|           |                                                                                       |       |        |       |                                                                                                       |                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| ER-887269 |    | 365.5 | 0.0195 | > 2.0 | 5-((2R,6S)-2-methyl-6-(((R)-3-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 (3 H, d) 1.35 (3 H, d) 2.58 - 2.76 (2 H, m) 2.77 - 2.93 (1 H, m) 3.12 (3 H, d) 3.38 (3 H, br. s.) 3.50 - 3.71 (4 H, m) 4.02 - 4.15 (1 H, m) 4.28 - 4.40 (1 H, m) 7.17 - 7.29 (1 H, m) 7.55 - 7.66 (1 H, m) 8.08 - 8.17 (1 H, m) 8.55 - 8.68 (1 H, m) 8.89 - 8.99 (1 H, m)   | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O (M+H) <sup>+</sup> 366.4, found 366.5 |
| ER-887270 |    | 365.5 | 0.0120 | > 2.0 | 5-((2R,6S)-2-methyl-6-(((S)-3-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (3 H, d) 1.38 (3 H, d) 2.60 - 2.79 (2 H, m) 3.00 - 3.14 (1 H, m) 3.35 - 3.56 (5 H, m) 3.58 - 3.85 (5 H, m) 4.02 - 4.19 (1 H, m) 4.33 - 4.49 (1 H, m) 7.09 - 7.28 (1 H, m) 7.53 - 7.71 (1 H, m) 8.05 - 8.15 (1 H, m) 8.55 - 8.67 (1 H, m) 8.87 - 9.02 (1 H, m)               | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O (M+H) <sup>+</sup> 366.4, found 366.5 |
| ER-887271 |    | 379.5 | 0.0150 | > 2.0 | 5-((2S,6R)-2-(((2R,5R)-2,5-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.20 - 1.28 (3 H, d) 1.33 - 1.40 (6 H, m) 2.62 - 2.77 (2 H, m) 3.03 - 3.18 (4 H, m) 3.31 - 3.50 (4 H, m) 3.55 - 3.70 (2 H, m) 4.02 - 4.14 (1 H, m) 4.23 - 4.34 (1 H, m) 7.19 - 7.29 (1 H, m) 7.57 - 7.64 (1 H, m) 8.08 - 8.18 (1 H, m) 8.58 - 8.65 (1 H, m) 8.92 - 8.99 (1 H, m) | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O (M+H) <sup>+</sup> 380.5, found 380.7 |
| ER-887272 |   | 379.5 | 0.0340 | > 2.0 | 5-((2S,6R)-2-(((2R,5S)-2,5-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |
| ER-887442 |  | 378.5 | 0.1487 | > 2.0 | 5-((2R,6S)-2-methyl-6-(((4-methylcyclohexyl)amino)methyl)morpholino)quinoline-8-carbonitrile          |                                                                                                                                                                                                                                                                                                                                               |                                                                                                              |

FIG. 6AA

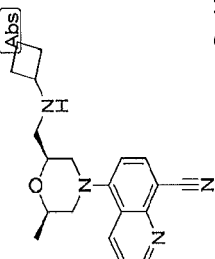
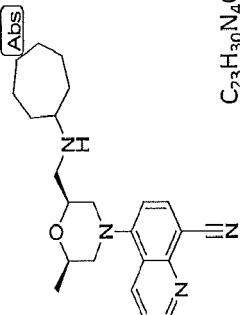
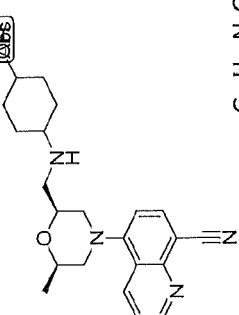
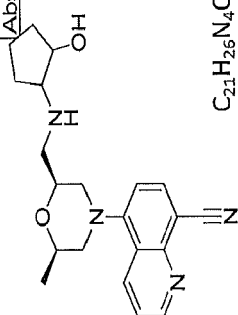
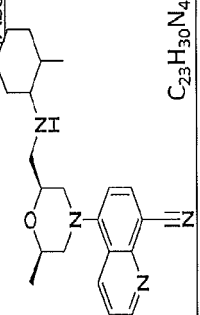
|           |                                                                                       |       |        |      |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|---------------------------------------------------------------------------------------|-------|--------|------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-887443 |    | 336.4 | 0.1250 | >2.0 | 5-((2S,6R)-2-((cyclobutylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile             | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=6.15 Hz, 4 H) 1.85 - 1.95 (m, 2 H) 2.13 - 2.26 (m, 2 H) 2.33 (d, J=9.38 Hz, 2 H) 2.64 - 2.75 (m, 2 H) 2.95 - 3.01 (m, 1 H) 3.09 - 3.15 (m, 1 H) 3.40 (s, 1 H) 3.37 (s, 1 H) 3.75 - 3.81 (m, 1 H) 4.09 (d, J=6.15 Hz, 1 H) 4.16 - 4.23 (m, 1 H) 4.85 - 4.86 (m, 6 H) 7.23 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (dt, J=7.91, 0.88 Hz, 1 H) 8.61 (d, J=8.79 Hz, 1 H) 8.94 - 8.97 (m, 1 H)       |
| ER-887444 |    | 378.5 | 0.1007 | >2.0 | 5-((2S,6R)-2-((cycloheptylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 - 1.29 (m, 4 H) 1.55 (br. s., 4 H) 1.60 (br. s., 4 H) 1.63 - 1.71 (m, 3 H) 1.78 (br. s., 2 H) 2.08 (d, J=5.96 Hz, 2 H) 2.63 - 2.77 (m, 2 H) 3.08 - 3.15 (m, 1 H) 3.23 (d, J=14.65 Hz, 1 H) 3.29 (br. s., 1 H) 3.40 (s, 1 H) 3.37 (s, 1 H) 4.11 (d, J=7.62 Hz, 1 H) 4.18 - 4.25 (m, 1 H) 4.85 - 4.87 (m, 6 H) 7.21 - 7.25 (m, 1 H) 7.58 - 7.63 (m, 1 H) 8.10 - 8.14 (m, 1 H) 8.58 - 8.63 (m, 1 H) 8.93 - 8.96 (m, 1 H)  |
| ER-887526 |    | 380.5 | 0.1190 | >2.0 | 5-((2S,6R)-2-(((4-hydroxycyclohexyl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 - 1.37 (m, 6 H) 1.40 - 1.54 (m, 2 H) 2.04 (s, 1 H) 2.01 (s, 1 H) 2.09 - 2.17 (m, 2 H) 2.64 - 2.76 (m, 2 H) 3.06 - 3.15 (m, 2 H) 3.21 - 3.25 (m, 1 H) 3.40 (s, 1 H) 3.37 (s, 1 H) 3.49 - 3.57 (m, 1 H) 4.07 - 4.14 (m, 1 H) 4.19 - 4.26 (m, 1 H) 4.80 - 4.85 (m, 7 H) 7.23 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.60 (dd, J=8.79, 1.76 Hz, 1 H) 8.95 (dd, J=4.39, 1.76 Hz, 1 H) |
| ER-887528 |   | 366.5 | >2.0   | >2.0 | 5-((2S,6R)-2-(((2-hydroxycyclopentyl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ER-887538 |  | 378.5 | 0.0400 | >2.0 | 5-((2R,6S)-2-methyl-6-(((2-methylcyclohexyl)amino)methyl)morpholino)quinoline-8-carbonitrile   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

FIG. 6BB

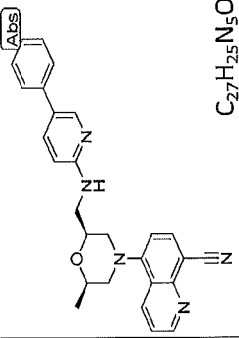
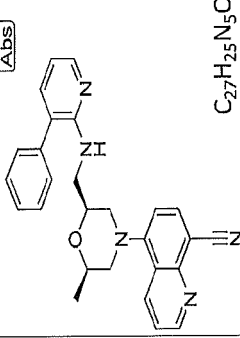
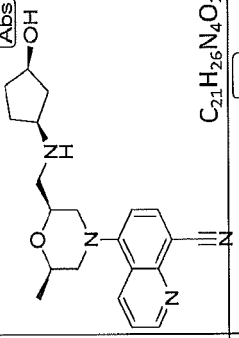
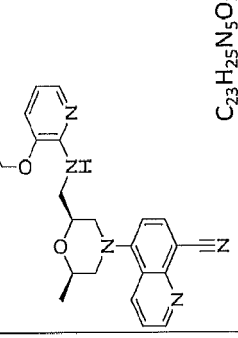
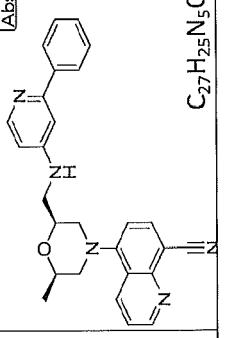
|           |                                                                                       |       |        |      |                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------|-------|--------|------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-887539 |    | 435.5 | 0.0020 | >2.0 | 5-((2R,6S)-2-methyl-6-((5-phenylpyridin-2-yl)amino)methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.19 (d, J=6.15 Hz, 4 H) 2.72 (dd, J=12.01, 10.25 Hz, 1 H) 2.83 - 2.89 (m, 1 H) 3.37 (d, J=12.01 Hz, 1 H) 3.59 (d, J=11.43 Hz, 1 H) 4.00 - 4.05 (m, 1 H) 4.39 - 4.48 (m, 4 H) 4.80 - 4.86 (m, 17 H) 7.18 (d, J=9.38 Hz, 1 H) 7.28 (d, J=7.91 Hz, 1 H) 7.39 - 7.50 (m, 3 H) 7.57 - 7.64 (m, 4 H) 8.14 (d, J=7.91 Hz, 1 H) 8.19 - 8.26 (m, 2 H) 8.64 - 8.68 (m, 1 H) 8.96 (dd, J=4.10, 1.76 Hz, 1 H)                         |
| ER-887540 |    | 435.5 | 0.0060 | >2.0 | 5-((2R,6S)-2-methyl-6-((3-phenylpyridin-2-yl)amino)methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.17 - 1.21 (m, 4 H) 2.67 - 2.73 (m, 1 H) 2.84 - 2.90 (m, 1 H) 3.38 (d, J=12.01 Hz, 1 H) 3.59 (d, J=12.01 Hz, 1 H) 4.02 - 4.08 (m, 1 H) 4.41 - 4.53 (m, 3 H) 4.83 - 4.87 (m, 14 H) 7.00 - 7.05 (m, 1 H) 7.28 (d, J=7.91 Hz, 1 H) 7.44 - 7.64 (m, 6 H) 7.78 (dd, J=7.32, 1.17 Hz, 1 H) 7.99 - 8.03 (m, 1 H) 8.14 (d, J=7.91 Hz, 1 H) 8.63 - 8.67 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                              |
| ER-887586 |    | 366.5 | 0.0860 | >2.0 | 5-((2S,6R)-2-(((1S,3R)-3-hydroxycyclopentylamino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 - 1.29 (m, 4 H) 1.80 - 1.87 (m, 3 H) 1.93 - 2.04 (m, 3 H) 2.12 - 2.19 (m, 2 H) 2.29 - 2.34 (m, 2 H) 2.64 - 2.79 (m, 5 H) 3.09 - 3.16 (m, 1 H) 3.24 (d, J=2.93 Hz, 1 H) 3.36 - 3.43 (m, 4 H) 3.64 - 3.70 (m, 1 H) 4.08 - 4.13 (m, 1 H) 4.20 - 4.26 (m, 1 H) 4.30 - 4.34 (m, 1 H) 4.82 - 4.86 (m, 7 H) 7.24 (d, J=8.20 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.59 - 8.63 (m, 1 H) 8.94 - 8.96 (m, 1 H) |
| ER-887587 |   | 403.5 | 0.0020 | >2.0 | 5-((2S,6R)-2-((3-ethoxypyridin-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.14 - 1.18 (m, 4 H) 1.45 - 1.50 (m, 4 H) 2.63 - 2.70 (m, 1 H) 2.80 - 2.87 (m, 1 H) 3.33 - 3.42 (m, 1 H) 3.54 (d, J=11.43 Hz, 1 H) 3.97 - 4.03 (m, 1 H) 4.24 (q, J=7.03 Hz, 3 H) 4.35 - 4.43 (m, 3 H) 4.81 - 4.85 (m, 7 H) 6.80 - 6.86 (m, 1 H) 7.23 - 7.28 (m, 1 H) 7.32 - 7.41 (m, 1 H) 7.51 - 7.54 (m, 1 H) 7.59 - 7.64 (m, 1 H) 8.12 - 8.15 (m, 1 H) 8.60 - 8.66 (m, 1 H) 8.94 - 8.97 (m, 1 H)                         |
| ER-887588 |  | 435.5 | 0.0030 | >2.0 | 5-((2R,6S)-2-methyl-6-((2-phenylpyridin-4-yl)amino)methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.18 (d, J=6.15 Hz, 3 H) 2.32 (s, 1 H) 2.57 (d, J=11.72 Hz, 1 H) 2.79 (s, 1 H) 3.03 (d, J=11.72 Hz, 1 H) 3.39 - 3.43 (m, 1 H) 4.05 - 4.10 (m, 1 H) 4.20 - 4.23 (m, 1 H) 4.81 - 4.86 (m, 21 H) 6.73 (d, J=2.93 Hz, 1 H) 6.87 - 6.89 (m, 1 H) 7.11 (s, 1 H) 7.13 (s, 1 H) 7.52 - 7.61 (m, 6 H) 8.08 (d, J=7.91 Hz, 1 H) 8.21 (s, 1 H) 8.23 (s, 1 H) 8.40 (s, 1 H) 8.41 (s, 1 H) 8.93 - 8.95 (m, 1 H)                         |

FIG. 6CC

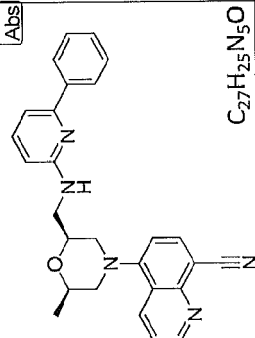
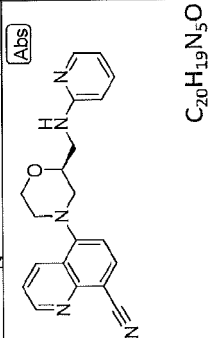
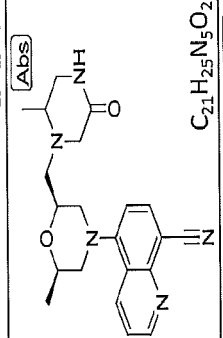
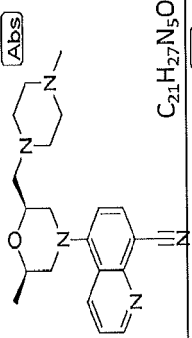
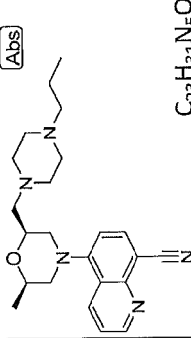
|           |                                                                                                                                                       |       |        |            |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                   |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-887589 | <br>C <sub>27</sub> H <sub>25</sub> N <sub>5</sub> O               | 435.5 | 0.1730 | > 2.0      | 5-((2R,6S)-2-methyl-6-((6-phenylpyridin-2-yl)amino)methyl)morpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.06 (br. s., 1 H) 1.97 - 2.02 (m, 1 H) 2.30 - 2.32 (m, 1 H) 2.64 (d, J=9.96 Hz, 1 H) 2.79 (s, 1 H) 2.85 - 2.88 (m, 1 H) 3.33 (s, 1 H) 3.36 - 3.41 (m, 1 H) 3.43 (d, J=4.98 Hz, 1 H) 3.47 (s, 1 H) 3.75 - 3.79 (m, 1 H) 4.81 - 4.85 (m, 1 H) 7.12 (d, J=9.38 Hz, 1 H) 7.19 (d, J=7.32 Hz, 1 H) 7.24 (d, J=8.20 Hz, 1 H) 7.58 - 7.63 (m, 4 H) 7.78 - 7.82 (m, 2 H) 7.98 - 8.03 (m, 1 H) 8.12 (s, 1 H) 8.13 (s, 1 H) 8.61 - 8.64 (m, 1 H) 8.94 - 8.96 (m, 1 H) | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 346.16, found: 346.33 |
| ER-887612 | <br>C <sub>27</sub> H <sub>25</sub> N <sub>5</sub> O               | 345.4 | 0.6110 | > 2.0      | (S)-5-(2-((pyridin-2-ylamino)methyl)morpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 2.64 - 2.78 (m, 1 H) 3.04 (td, J=11.80, 3.10 Hz, 1 H) 3.25 (d, 1 H) 3.79 - 4.09 (m, 4 H) 4.35 (t, J=9.51 Hz, 1 H) 4.80 (d, 1 H) 6.52 (br. s., 1 H) 7.02 - 7.13 (m, 1 H) 7.17 - 7.29 (m, 1 H) 7.37 - 7.56 (m, 3 H) 8.00 (d, J=7.90 Hz, 1 H) 8.41 - 8.52 (m, 1 H) 9.01 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                                                                                                          |                                                                                                                   |
| ER-887722 | <br>C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O               | 379.5 | 0.0170 | > 2.0      | 5-((2R,6S)-2-methyl-6-((2-methyl-5-oxopiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                   |
| ER-887723 | <br>C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> | 365.5 | 0.0160 | >10 & < 30 | 5-((2R,6S)-2-methyl-6-((4-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (3 H, d) 2.57 - 2.75 (2 H, m) 2.93 (3 H, s) 3.11 - 3.22 (2 H, m) 3.31 - 3.42 (3 H, m) 3.44 - 3.60 (7 H, m) 4.04 - 4.18 (1 H, m) 4.29 - 4.43 (1 H, m) 7.16 - 7.27 (1 H, m) 7.54 - 7.64 (1 H, m) 8.06 - 8.14 (1 H, m) 8.57 - 8.65 (1 H, m) 8.90 - 8.98 (1 H, m)                                                                                                                                                                                           | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 366.4, found 366.6    |
| ER-887724 | <br>C <sub>23</sub> H <sub>31</sub> N <sub>5</sub> O             | 393.5 | 0.0150 | > 30       | 5-((2R,6S)-2-methyl-6-((4-propylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.99 (3 H, t) 1.23 (3 H, d) 1.65 - 1.78 (2 H, m) 2.56 - 2.66 (1 H, m) 2.68 - 2.77 (1 H, m) 2.91 - 3.00 (2 H, m) 3.02 - 3.16 (2 H, m) 3.27 (4 H, d) 3.34 - 3.49 (6 H, m) 3.98 - 4.15 (1 H, m) 4.21 - 4.37 (1 H, m) 7.16 - 7.27 (1 H, m) 7.57 - 7.63 (1 H, m) 8.07 - 8.17 (1 H, m) 8.54 - 8.65 (1 H, m) 8.90 - 8.99 (1 H, m)                                                                                                                                   | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>31</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 394.5, found 394.6    |

FIG. 6DD

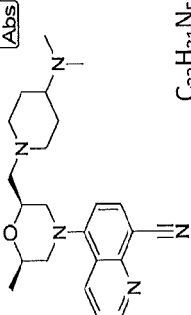
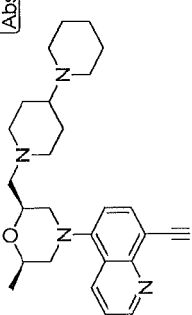
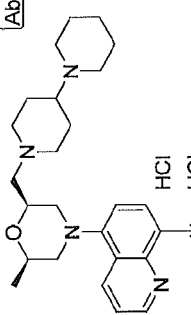
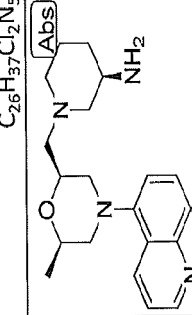
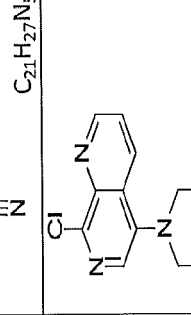
|           |                                                                                                                                                                      |       |        |         |                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                   |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|---------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| ER-887725 | <br><chem>CN(C)CN1CCN(C1Cc2ccc3c(c2)ncn3C#N)CC4</chem><br>$C_{23}H_{31}N_5O$      | 393.5 | 0.0080 | 0.8     | 5-((2S,6R)-2-((4-(dimethylamino)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (3 H, d) 2.03 - 2.26 (2 H, m) 2.28 - 2.46 (2 H, m) 2.62 - 2.78 (2 H, m) 2.90 (6 H, s) 3.13 - 3.22 (2 H, m) 3.29 - 3.44 (4 H, m) 3.47 - 3.63 (1 H, m) 3.78 - 3.96 (2 H, m) 4.06 - 4.19 (1 H, m) 4.35 - 4.52 (1 H, m) 7.16 - 7.32 (1 H, m) 7.54 - 7.66 (1 H, m) 8.12 (1 H, d) 8.61 (1 H, d) 8.88 - 9.02 (1 H, m)                                                                                                                                                                      | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>31</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 394.5, found 394.7                    |
| ER-887927 | <br><chem>CN(C)CN1CCN(C1Cc2ccc3c(c2)ncn3C#N)CC4</chem><br>$C_{23}H_{31}N_5O$      | 433.6 | 0.0114 | 0.719   | 5-((2S,6R)-2-((1,4'-bipiperidin-1'-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.26 (3 H, d) 1.43 - 1.60 (1 H, m) 1.71 - 1.86 (3 H, m) 1.90 - 2.04 (2 H, m) 2.08 - 2.28 (2 H, m) 2.38 (2 H, br. s.) 2.63 - 2.79 (2 H, m) 3.00 - 3.05 (3 H, m) 3.30 - 3.42 (4 H, m) 3.52 (4 H, br. s.) 3.77 - 3.94 (2 H, m) 4.12 (1 H, d) 4.43 (1 H, br. s.) 7.23 (1 H, d) 7.49 - 7.71 (1 H, m) 8.11 (1 H, s) 8.50 - 8.66 (1 H, m) 8.85 - 8.99 (1 H, m)                                                                                                                                  | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>37</sub> Cl <sub>2</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 434.5, found 434.6    |
| ER-887927 | <br><chem>CN(C)CN1CCN(C1Cc2ccc3c(c2)ncn3C#N)CC4</chem><br>$C_{26}H_{37}Cl_2N_5O$  | 433.6 | 0.0109 | 0.41482 | 5-((2S,6R)-2-((1,4'-bipiperidin-1'-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile dihydrochloride | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) δ ppm 1.21 (d, J=6.20 Hz, 3 H) 1.31 - 1.51 (m, 1 H) 1.71 (d, J=13.03 Hz, 1 H) 1.76 - 2.03 (m, 4 H) 2.11 - 2.30 (m, 2 H) 2.30 - 2.41 (m, 2 H) 2.60 - 2.80 (m, 2 H) 2.80 - 3.01 (m, 2 H) 3.03 - 3.21 (m, 2 H) 3.37 - 3.53 (m, 2 H) 3.63 (d, J=11.75 Hz, 1 H) 3.80 (d, J=12.60 Hz, 1 H) 3.97 - 4.15 (m, 1 H) 4.50 (t, J=9.19 Hz, 1 H) 7.19 - 7.34 (m, 1 H) 7.63 - 7.76 (m, 1 H) 8.29 (d, J=8.12 Hz, 1 H) 8.55 - 8.67 (m, 1 H) 9.07 (dd, J=4.27, 1.71 Hz, 1 H) 10.84 (br. s., 1 H) 10.94 (br. s., 1 H) | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>37</sub> Cl <sub>2</sub> N <sub>5</sub> O (M+H <sup>+</sup> ): 434.23, found: 434.55 |
| ER-887928 | <br><chem>CN(C)CN1CCN(C1Cc2ccc3c(c2)ncn3C#N)CC4</chem><br>$C_{26}H_{37}Cl_2N_5O$ | 365.5 | 0.1410 | > 2.0   | 5-((2S,6R)-2-((R)-3-aminopiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.26 (d, J=6.15 Hz, 3 H) 1.41 (br. s., 1 H) 1.51 - 1.77 (m, 2 H) 1.78 - 2.02 (m, 2 H) 2.03 - 2.29 (m, 2 H) 2.57 - 2.81 (m, 2 H) 3.10 (s, 1 H) 3.05 (s, 1 H) 3.32 (br. s., 1 H) 3.40 (s, 1 H) 3.37 (s, 1 H) 3.59 (br. s., 2 H) 3.73 (br. s., 2 H) 4.12 (dd, J=8.20, 6.45 Hz, 2 H) 4.42 (br. s., 1 H) 4.59 - 4.82 (m, 1 H) 7.24 (d, J=8.20 Hz, 1 H) 7.44 - 7.65 (m, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.61 (dd, J=8.50, 1.76 Hz, 1 H) 8.92 - 8.99 (m, 1 H)                                     |                                                                                                                                   |
| ER-887960 | <br><chem>CN(C)CN1CCN(C1Cc2ccc3c(c2)ncn3C#N)CC4</chem><br>$C_{14}H_{16}ClN_3O$  | 277.8 | 1.1800 | >20     | (2R,6S)-4-(8-chloro-1,7-naphthyridin-5-yl)-2,6-dimethylmorpholine                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                   |

FIG. 6EE

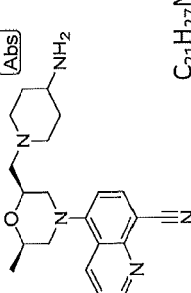
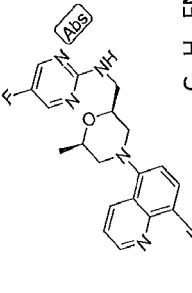
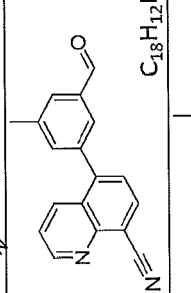
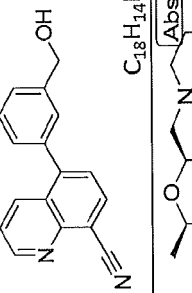
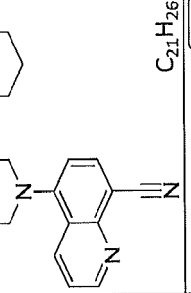
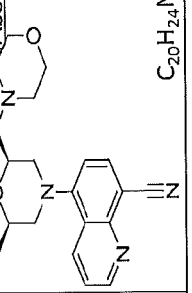
|           |                                                                                                               |         |        |       |                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                  |
|-----------|---------------------------------------------------------------------------------------------------------------|---------|--------|-------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| ER-888070 | <br>$C_{21}H_{27}N_5O$     | 365.5   | 0.0215 | 0.352 | 5-((2S,6R)-2-((4-aminopiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.26 (3 H, d) 1.95 - 2.10 (2 H, m) 2.18 - 2.32 (2 H, m) 2.63 - 2.74 (2 H, m) 3.32 - 3.39 (5 H, m) 3.41 - 3.54 (2 H, m) 3.72 - 3.92 (2 H, m) 4.08 - 4.18 (1 H, m) 4.36 - 4.52 (1 H, m) 7.19 - 7.27 (1 H, m) 7.54 - 7.64 (1 H, m) 8.04 - 8.17 (1 H, m) 8.54 - 8.66 (1 H, m) 8.89 - 9.02 (1 H, m)                                                                  | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O (M+H <sup>+</sup> ) 366.4, found 366.2    |
| ER-888137 | <br>$C_{20}H_{19}FN_6O$    | 378.4   | 0.1860 | > 2.0 | 5-((2S,6R)-2-((5-fluoropyrimidin-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.20 - 1.27 (m, 7 H) 2.61 (d, J=11.72 Hz, 1 H) 2.65 - 2.71 (m, 1 H) 3.33 (s, 1 H) 3.36 (s, 1 H) 3.40 (s, 1 H) 3.43 (s, 1 H) 3.47 - 3.50 (m, 2 H) 4.81 - 4.90 (m, 18 H) 7.19 (d, J=8.20 Hz, 1 H) 7.56 - 7.59 (m, 1 H) 8.09 (s, 1 H) 8.11 (s, 1 H) 8.20 (s, 1 H) 8.38 (br. s., 1 H) 8.56 - 8.59 (m, 1 H) 8.92 - 8.94 (m, 1 H)                                     |                                                                                                                  |
| ER-888200 | <br>$C_{18}H_{12}N_2O$     | 272.306 | 0.8580 | > 2.0 | 5-(3-formyl-5-methylphenyl)quinoline-8-carbonitrile                                             | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 2.57 (s, 3 H) 7.50 - 7.57 (m, 2 H) 7.60 (d, J=7.48 Hz, 1 H) 7.74 - 7.81 (m, 1 H) 7.85 (d, J=0.85 Hz, 1 H) 8.15 - 8.28 (m, 2 H) 9.15 (dd, J=4.17, 1.60 Hz, 1 H) 10.10 (s, 1 H)                                                                                                                                                                                              | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>12</sub> N <sub>2</sub> O (M+H <sup>+</sup> ) 273.10, found: 273.26 |
| ER-888201 | <br>$C_{18}H_{14}N_2O$    | 274.322 | 0.1240 | > 2.0 | 5-(3-(hydroxymethyl)-5-methylphenyl)quinoline-8-carbonitrile                                    | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 2.47 (d, J=0.64 Hz, 3 H) 4.79 (s, 2 H) 7.15 - 7.22 (m, 1 H) 7.27 (m, 1 H) 7.31 - 7.37 (m, 1 H) 7.51 (dd, J=8.65, 4.17 Hz, 1 H) 7.56 (d, J=7.26 Hz, 1 H) 8.16 (d, J=7.48 Hz, 1 H) 8.31 (dd, J=8.76, 1.71 Hz, 1 H) 9.10 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                                                           | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>14</sub> N <sub>2</sub> O (M+H <sup>+</sup> ) 275.11, found: 275.24 |
| ER-888202 | <br>$C_{21}H_{26}N_4O$   | 350.5   | 0.0670 | > 2.0 | 5-((2R,6S)-2-methyl-6-(piperidin-1-ylmethyl)morpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.27 (d, J=6.45 Hz, 4 H) 1.75 - 1.99 (m, 5 H) 2.65 - 2.75 (m, 3 H) 2.98 - 3.07 (m, 3 H) 3.19 - 3.25 (m, 2 H) 3.33 - 3.41 (m, 3 H) 3.62 (s, 1 H) 3.59 (s, 1 H) 4.11 - 4.16 (m, 1 H) 4.37 - 4.44 (m, 1 H) 4.80 - 4.84 (m, 3 H) 7.24 (d, J=7.91 Hz, 1 H) 7.59 - 7.63 (m, 1 H) 8.11 - 8.14 (m, 1 H) 8.63 (dd, J=8.50, 1.76 Hz, 1 H) 8.96 (dd, J=4.10, 1.76 Hz, 1 H) |                                                                                                                  |
| ER-888203 | <br>$C_{20}H_{24}N_4O_2$ | 350.5   | 0.2060 | > 2.0 | 5-((2R,6S)-2-methyl-6-(morpholinomethyl)morpholino)quinoline-8-carbonitrile                     | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.24 - 1.29 (m, 4 H) 2.65 - 2.76 (m, 2 H) 3.26 - 3.40 (m, 6 H) 4.09 - 4.16 (m, 1 H) 4.41 - 4.48 (m, 1 H) 4.80 - 4.86 (m, 18 H) 4.90 (s, 1 H) 7.23 (d, J=7.91 Hz, 1 H) 7.60 (dd, J=8.50, 4.39 Hz, 1 H) 8.11 (d, J=7.91 Hz, 1 H) 8.58 - 8.62 (m, 1 H) 8.92 - 8.95 (m, 1 H)                                                                                        |                                                                                                                  |

FIG. 6FF

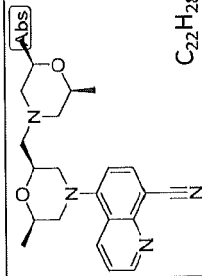
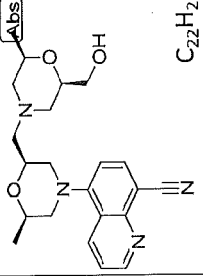
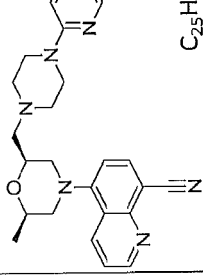
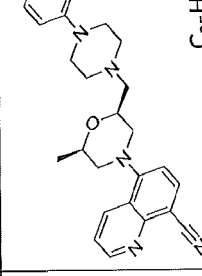
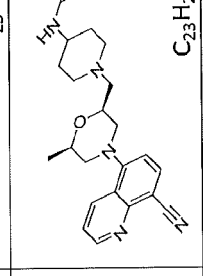
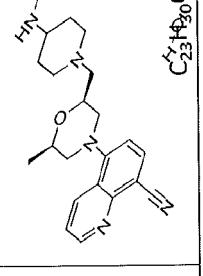
|           |                                                                                       |       |        |        |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-888204 |    | 380.5 | 0.3350 | > 2.0  | 5-((2S,6R)-2-(((2S,6R)-2,6-dimethylmorpholino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.19 - 1.29 (m, 11 H) 2.66 - 2.80 (m, 5 H) 3.29 - 3.41 (m, 4 H) 3.55 (dd, J=18.16, 12.89 Hz, 2 H) 4.12 - 4.18 (m, 1 H) 4.46 (br. s., 1 H) 4.80 - 4.86 (m, 1 H) 7.24 (d, J=8.20 Hz, 1 H) 7.62 (dd, J=8.50, 4.39 Hz, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.62 (dd, J=8.50, 1.76 Hz, 1 H) 8.94 - 8.97 (m, 1 H)                                                                                                                        |
| ER-888205 |    | 396.5 | 0.3550 | > 2.0  | 5-((2S,6R)-2-(((2R,6R)-2-(hydroxymethyl)-6-methylmorpholino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.26 (dd, J=12.89, 6.15 Hz, 8 H) 2.66 - 2.84 (m, 4 H) 2.98 (t, J=11.72 Hz, 1 H) 3.30 - 3.42 (m, 5 H) 3.56 (d, J=12.01 Hz, 1 H) 3.60 - 3.66 (m, 4 H) 3.83 (d, J=10.25 Hz, 1 H) 4.13 - 4.18 (m, 1 H) 4.80 - 4.87 (m, 12 H) 7.25 (d, J=7.91 Hz, 1 H) 7.60 - 7.64 (m, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.61 - 8.64 (m, 1 H) 8.94 - 8.97 (m, 1 H)                                                                                    |
| ER-888285 |    | 428.5 | 0.1200 | > 2.0  | 5-((2R,6S)-2-methyl-6-((4-(pyridin-2-yl)piperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.29 (d, J=6.15 Hz, 4 H) 2.67 - 2.78 (m, 2 H) 3.35 - 3.43 (m, 5 H) 3.53 (br. s., 2 H) 4.14 - 4.19 (m, 1 H) 4.47 (d, J=7.91 Hz, 1 H) 6.86 - 6.90 (m, 1 H) 7.08 (d, J=8.79 Hz, 1 H) 7.25 (d, J=7.91 Hz, 1 H) 7.62 (dd, J=8.50, 4.39 Hz, 1 H) 7.75 - 7.79 (m, 1 H) 8.12 - 8.15 (m, 2 H) 8.61 - 8.65 (m, 1 H) 8.95 - 8.97 (m, 1 H)                                                                                               |
| ER-888286 |   | 428.5 | 1.3700 | > 2.0  | 5-((2R,6S)-2-methyl-6-((4-(pyridin-4-yl)piperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (d, J=6.15 Hz, 2 H) 2.60 - 2.80 (m, 2 H) 3.29 - 3.49 (m, 5 H) 3.56 (s, 1 H) 3.53 (s, 1 H) 3.94 - 4.13 (m, 2 H) 4.18 - 4.42 (m, 2 H) 4.43 - 4.66 (m, 1 H) 4.83 - 5.07 (m, 5 H) 7.25 - 7.48 (m, 2 H) 7.59 - 7.75 (m, 1 H) 8.18 (d, J=7.91 Hz, 1 H) 8.37 (d, J=7.62 Hz, 2 H) 8.63 - 8.77 (m, 1 H) 8.99 - 9.03 (m, 1 H)                                                                                                     |
| ER-888288 |  | 407.5 | 0.0220 | > 10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholino-2-yl)methyl)piperidin-4-yl)acetamide                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (d, J=6.45 Hz, 3 H) 1.72 - 1.85 (m, 1 H) 1.90 - 1.96 (m, 3 H) 2.09 - 2.20 (m, 2 H) 2.64 - 2.75 (m, 2 H) 3.11 - 3.20 (m, 2 H) 3.29 - 3.41 (m, 3 H) 3.73 (s, 1 H) 3.70 (s, 1 H) 3.85 - 3.92 (m, 1 H) 4.09 - 4.16 (m, 1 H) 4.41 (d, J=8.20 Hz, 1 H) 4.81 - 4.86 (m, 8 H) 7.23 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.61 (dd, J=8.50, 1.47 Hz, 1 H) 8.95 (dd, J=4.10, 1.76 Hz, 1 H) |
| ER-888288 |  | 407.5 | 0.0050 | > 10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholino-2-yl)methyl)piperidin-4-yl)acetamide hydrochloride   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (3 H, d) 1.69 - 1.86 (2 H, m) 1.93 (3 H, s) 2.04 - 2.20 (3 H, m) 2.60 - 2.79 (3 H, m) 3.07 - 3.22 (2 H, m) 3.36 - 3.42 (2 H, m) 3.67 - 3.76 (2 H, m) 3.82 - 3.94 (1 H, m) 4.08 - 4.18 (1 H, m) 4.35 - 4.46 (1 H, m) 7.15 - 7.28 (1 H, m) 7.54 - 7.66 (1 H, m) 8.05 - 8.17 (1 H, m) 8.56 - 8.65 (1 H, m) 8.89 - 8.99 (1 H, m)                                                                                            |
|           |                                                                                       |       |        |        |                                                                                                                 | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 408.5, found 408.6                                                                                                                                                                                                                                                                                                                                                                |

FIG. 6GG

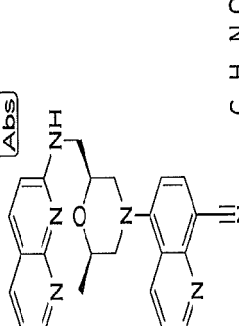
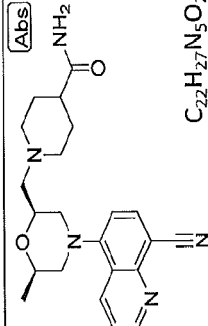
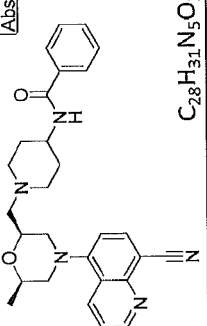
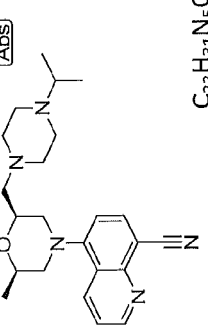
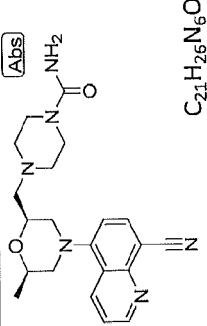
|           |                                                                                       |       |        |       |                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ER-888289 |    | 410.5 | 0.0740 | > 2.0 | 5-((2S,6R)-2-((1-(8-naphthylidene-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.17 (d, J=6.15 Hz, 3 H) 1.94 (s, 1 H) 2.64 (dd, J=12.01, 10.25 Hz, 2 H) 2.86 - 2.99 (m, 1 H) 3.29 - 3.48 (m, 3 H) 3.64 (s, 1 H) 3.61 (s, 1 H) 3.80 - 4.05 (m, 2 H) 4.37 - 4.57 (m, 1 H) 4.66 (dd, J=13.18, 8.20 Hz, 1 H) 4.78 - 4.98 (m, 6 H) 5.37 (dd, J=13.18, 2.64 Hz, 1 H) 7.15 (d, J=9.08 Hz, 1 H) 7.29 (d, J=7.91 Hz, 1 H) 7.42 - 7.59 (m, 1 H) 7.65 (dd, J=8.50, 4.10 Hz, 2 H) 8.04 - 8.29 (m, 2 H) 8.56 - 8.75 (m, 2 H) 8.76 - 8.90 (m, 1 H) 8.91 - 9.09 (m, 1 H) | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 394.4, found 394.5 |
| ER-888320 |    | 393.5 | 0.0520 | > 2.0 | 1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidine-4-carboxamide      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (3 H, d) 2.05 - 2.23 (3 H, m) 2.35 - 2.47 (2 H, m) 2.61 - 2.77 (2 H, m) 3.10 - 3.21 (3 H, m) 3.31 - 3.42 (2 H, m) 3.68 (1 H, br. s.) 3.74 - 3.94 (2 H, m) 4.08 - 4.21 (1 H, m) 4.38 - 4.50 (1 H, m) 7.17 - 7.27 (1 H, m) 7.54 - 7.66 (1 H, m) 8.09 - 8.16 (1 H, m) 8.57 - 8.66 (1 H, m) 8.89 - 8.98 (1 H, m)                                                                                                                                                          | LCMS (ESI+) calcd for C <sub>28</sub> H <sub>31</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 470.5, found 470.6 |
| ER-888321 |    | 469.6 | 0.0072 | > 2.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)benzamide   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (3 H, d) 1.85 - 2.08 (2 H, m) 2.10 - 2.35 (3 H, m) 2.59 - 2.82 (2 H, m) 3.24 - 3.31 (2 H, m) 3.33 - 3.43 (3 H, m) 3.72 - 3.82 (2 H, m) 4.09 - 4.21 (2 H, m) 4.35 - 4.50 (1 H, m) 7.21 - 7.27 (1 H, m) 7.39 - 7.48 (2 H, m) 7.49 - 7.54 (1 H, m) 7.58 - 7.66 (1 H, m) 7.72 - 7.86 (2 H, m) 8.08 - 8.19 (1 H, m) 8.57 - 8.69 (1 H, m) 8.90 - 9.02 (1 H, m)                                                                                                              |                                                                                                               |
| ER-888322 |   | 393.5 | 0.0630 | > 2.0 | 5-((2S,6R)-2-((4-isopropylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (d, J=6.15 Hz, 4 H) 1.31 - 1.36 (m, 8 H) 2.63 (dd, J=12.31, 10.25 Hz, 1 H) 2.72 (dd, J=12.01, 10.25 Hz, 1 H) 2.81 - 2.87 (m, 2 H) 3.29 - 3.41 (m, 6 H) 3.43 - 3.52 (m, 1 H) 4.04 - 4.09 (m, 1 H) 4.19 - 4.25 (m, 1 H) 7.22 (d, J=8.20 Hz, 1 H) 7.58 - 7.62 (m, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.61 (dd, J=8.50, 1.76 Hz, 1 H) 8.95 (dd, J=4.39, 1.76 Hz, 1 H)                                                                                                          |                                                                                                               |
| ER-888330 |  | 394.5 | 0.4570 | > 2.0 | 4-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperazine-1-carboxamide      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (br. s., 1 H) 1.33 (d, J=6.15 Hz, 3 H) 2.67 - 2.84 (m, 2 H) 3.23 (br. s., 2 H) 3.27 - 3.49 (m, 6 H) 4.19 (d, J=6.15 Hz, 2 H) 4.47 (br. s., 2 H) 4.84 - 5.07 (m, 6 H) 7.30 (d, J=8.20 Hz, 1 H) 7.49 - 7.77 (m, 2 H) 8.18 (d, J=8.20 Hz, 1 H) 8.67 (dd, J=8.50, 1.76 Hz, 1 H) 8.85 - 9.06 (m, 1 H)                                                                                                                                                                      |                                                                                                               |

FIG. 6HH

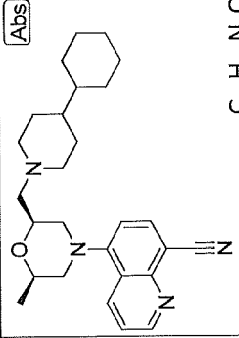
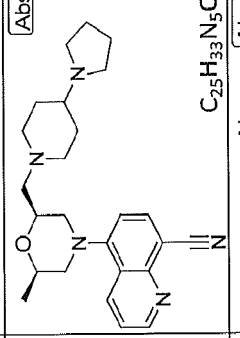
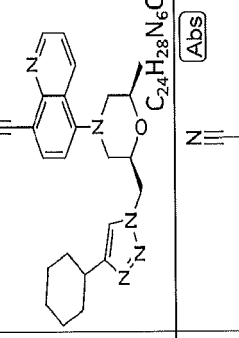
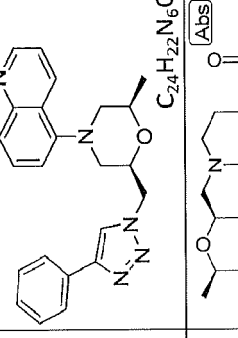
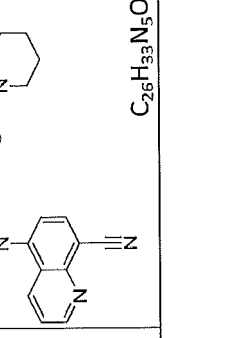
|           |                                                                                                                        |       |        |       |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                    |
|-----------|------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| ER-888479 | <br>(Abs)<br>$C_{27}H_{36}N_4O$     | 432.6 | 0.3220 | > 2.0 | 5-((2S,6R)-2-((4-cyclohexylpiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 0.85 - 1.04 (2 H, m), 1.11 - 1.21 (3 H, m), 1.27 (3 H, d), 1.38 - 1.41 (2 H, m), 1.66 (1 H, d), 1.69 - 1.80 (5 H, m), 1.89 - 2.06 (2 H, m), 2.61 - 2.77 (2 H, m), 2.87 - 3.06 (2 H, m), 3.20 - 3.24 (2 H, m), 3.31 - 3.43 (3 H, m), 3.63 - 3.72 (2 H, m), 4.06 - 4.18 (1 H, m), 4.37 - 4.44 (1 H, m), 7.18 - 7.27 (1 H, m), 7.56 - 7.65 (1 H, m), 8.06 - 8.16 (1 H, m), 8.57 - 8.65 (1 H, m), 8.91 - 8.98 (1 H, m)                                                                                                                         | LCMS (ESI+) calcd for $C_{27}H_{36}N_4O$ (M+H+) 433.6, found 433.2 |
| ER-888480 | <br>(Abs)<br>$C_{25}H_{33}N_5O$     | 419.6 | 0.0263 | 0.536 | 5-((2R,6S)-2-methyl-6-((4-(pyrrolidin-1-yl)piperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.29 (d, J=6.45 Hz, 2 H), 1.98 (s, 2 H), 2.12 (s, 2 H), 2.45 (br. s., 2 H), 2.64 - 2.80 (m, 1 H), 3.19 (br. s., 2 H), 3.24 - 3.51 (m, 4 H), 3.70 (br. s., 1 H), 3.81 (br. s., 1 H), 3.88 (br. s., 1 H), 4.09 - 4.20 (m, 1 H), 4.45 (br. s., 1 H), 4.77 (s, 1 H), 4.81 - 4.88 (m, 16 H), 4.92 (s, 1 H), 7.26 (d, J=8.20 Hz, 1 H), 7.64 (dd, J=8.50, 4.10 Hz, 1 H), 8.15 (d, J=7.91 Hz, 1 H), 8.58 - 8.68 (m, 1 H), 8.90 - 9.06 (m, 1 H)                                                                                                     |                                                                    |
| ER-888603 | <br>(Abs)<br>$C_{25}H_{33}N_5O$     | 416.5 | 0.4060 | > 2.0 | 5-((2R,6R)-2-((4-cyclohexyl-1H-1,2,3-triazol-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                    |
| ER-888604 | <br>(Abs)<br>$C_{24}H_{22}N_6O$    | 410.5 | 0.1230 | > 2.0 | 5-((2R,6R)-2-methyl-6-((4-phenyl-1H-1,2,3-triazol-1-yl)methyl)morpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 (d, J=6.15 Hz, 4 H), 2.58 - 2.73 (m, 2 H), 3.33 (d, J=12.01 Hz, 1 H), 3.44 - 3.50 (m, 1 H), 4.01 - 4.09 (m, 1 H), 4.36 - 4.42 (m, 1 H), 4.54 - 4.61 (m, 1 H), 4.63 - 4.69 (m, 1 H), 4.83 - 4.86 (m, 4 H), 7.21 (d, J=8.20 Hz, 1 H), 7.29 - 7.34 (m, 1 H), 7.38 - 7.43 (m, 2 H), 7.59 (dd, J=8.50, 4.10 Hz, 1 H), 7.77 - 7.81 (m, 2 H), 8.10 (d, J=7.91 Hz, 1 H), 8.33 (s, 1 H), 8.58 - 8.62 (m, 1 H), 8.91 - 8.94 (m, 1 H)                                                                                                            |                                                                    |
| ER-888605 | <br>(Abs)<br>$C_{26}H_{33}N_5O_2$ | 432.6 | 0.0360 | > 2.0 | 5-((2R,6S)-2-methyl-6-((2-oxo-[1,4'-bipiperidin-1'-yl)methyl)morpholino)quinoline-8-carbonitrile      | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.24 (d, J=6.45 Hz, 3 H), 1.32 (s, 1 H), 1.39 (s, 1 H), 1.57 - 1.82 (m, 4 H), 1.83 - 2.05 (m, 2 H), 2.17 - 2.42 (m, 2 H), 2.48 - 2.74 (m, 3 H), 2.74 - 2.90 (m, 2 H), 3.24 (br. s., 2 H), 3.30 (br. s., 1 H), 3.38 (s, 1 H), 3.35 (s, 1 H), 4.08 (d, J=8.20 Hz, 1 H), 4.23 (br. s., 1 H), 4.43 (s, 1 H), 4.40 (s, 1 H), 4.75 (br. s., 1 H), 4.80 (br. s., 1 H), 4.90 (s, 1 H), 7.22 (d, J=8.20 Hz, 2 H), 7.61 (dd, J=8.50, 4.39 Hz, 1 H), 8.12 (d, J=7.91 Hz, 1 H), 8.43 (br. s., 2 H), 8.62 (d, J=8.50 Hz, 2 H), 8.95 (d, J=4.10 Hz, 1 H) |                                                                    |

FIG. 6II

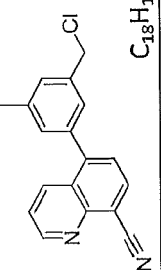
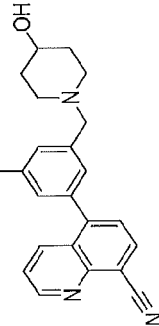
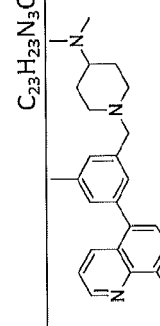
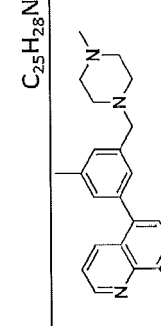
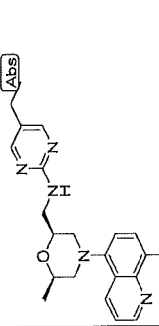
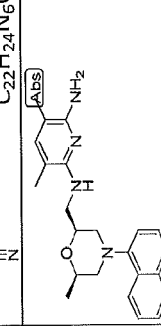
|           |                                                                                                                 |         |        |        |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------|---------|--------|--------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| ER-888644 | <br><chem>C18H13ClN2</chem>  | 292.768 | 1.0940 | > 2.0  | 5-(3-(chloromethyl)-5-methylphenyl)quinoline-8-carbonitrile                                         | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 2.48 (s, 3 H) 4.65 (s, 2 H) 7.23 (s, 1 H) 7.27 - 7.31 (m, 1 H) 7.37 (s, 1 H) 7.53 (dd, J=8.65, 4.17 Hz, 1 H) 7.58 (d, J=7.48 Hz, 1 H) 8.18 (d, J=7.48 Hz, 1 H) 8.29 (dd, J=8.55, 1.71 Hz, 1 H) 9.14 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                                   | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>14</sub> N <sub>2</sub> O (M+H+) 293.08, found: 293.26 |
| ER-888645 | <br><chem>C23H23N3O</chem>   | 357.455 | 0.3220 | > 2.0  | 5-(3-(4-hydroxypiperidin-1-yl)methyl)-5-methylphenyl)quinoline-8-carbonitrile                       | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.52 - 1.78 (m, 2 H) 1.83 - 1.98 (m, 2 H) 2.21 (t, J=9.61 Hz, 2 H) 2.45 (s, 3 H) 2.70 - 2.88 (m, 2 H) 3.56 (s, 2 H) 3.65 - 3.85 (m, 1 H) 7.16 (s, 1 H) 7.25 - 7.31 (m, 2 H) 7.51 (dd, J=8.55, 4.06 Hz, 1 H) 7.58 (d, J=7.48 Hz, 1 H) 8.17 (d, J=7.48 Hz, 1 H) 8.33 (dd, J=8.55, 1.71 Hz, 1 H) 9.12 (dd, J=4.27, 1.71 Hz, 1 H)    | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>23</sub> N <sub>3</sub> O (M+H+) 358.19, found: 358.41 |
| ER-888646 | <br><chem>C25H28N4</chem>    | 384.524 | 0.1380 | 0.4850 | 5-(3-(4-(dimethylamino)piperidin-1-yl)methyl)-5-methylphenyl)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.51 - 1.68 (m, 2 H) 1.70 - 1.97 (m, 2 H) 1.99 - 2.11 (m, 2 H) 2.25 - 2.40 (m, 4 H) 2.45 (s, 3 H) 3.00 (d, 2 H) 3.56 (s, 2 H) 7.16 (s, 1 H) 7.21 (s, 1 H) 7.24 - 7.31 (m, 1 H) 7.51 (dd, J=8.55, 4.27 Hz, 1 H) 7.57 (d, J=7.48 Hz, 1 H) 8.17 (d, J=7.48 Hz, 1 H) 8.33 (dd, J=8.76, 1.71 Hz, 1 H) 9.12 (dd, J=4.27, 1.71 Hz, 1 H) | LCMS (ESI+) calcd for C <sub>25</sub> H <sub>28</sub> N <sub>4</sub> (M+H+) 385.23, found: 385.46   |
| ER-888647 | <br><chem>C25H28N4</chem>    | 356.471 | 0.2300 | > 2.0  | 5-(3-methyl-5-(4-methylpiperazin-1-yl)methyl)phenyl)quinoline-8-carbonitrile                        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 2.31 (s, 3 H) 2.36 - 2.65 (m, 11 H) 3.59 (s, 2 H) 7.15 (s, 1 H) 7.22 (s, 1 H) 7.25 - 7.31 (m, 1 H) 7.51 (dd, J=8.65, 4.17 Hz, 1 H) 7.57 (d, J=7.48 Hz, 1 H) 8.17 (d, J=7.48 Hz, 1 H) 8.32 (dd, J=8.55, 1.71 Hz, 1 H) 9.12 (dd, J=4.27, 1.71 Hz, 1 H)                                                                             | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>24</sub> N <sub>4</sub> (M+H+) 357.20, found: 357.43   |
| ER-888701 | <br><chem>C23H24N4</chem>  | 388.5   | 0.0710 | > 2.0  | 5-(2-(2-(5-ethylpyrimidin-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile            |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                     |
| ER-888838 | <br><chem>C22H24N6O</chem> | 402.5   | 0.0020 | > 2.0  | 5-(2-(2-(6-amino-3,5-dimethylpyridin-2-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (3 H, d) 1.96 (3 H, s) 1.98 (3 H, s) 2.57 - 2.69 (1 H, m) 2.72 - 2.85 (1 H, m) 3.30 - 3.44 (2 H, m) 3.45 - 3.63 (2 H, m) 4.03 - 4.10 (1 H, m) 4.13 - 4.25 (1 H, m) 7.13 (1 H, s) 7.16 - 7.24 (1 H, m) 7.51 - 7.63 (1 H, m) 8.03 - 8.15 (1 H, m) 8.52 - 8.61 (1 H, m) 8.86 - 8.96 (1 H, m)                       | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>26</sub> N <sub>6</sub> O (M+H+) 403.4, found 403.6    |

FIG. 6JJ

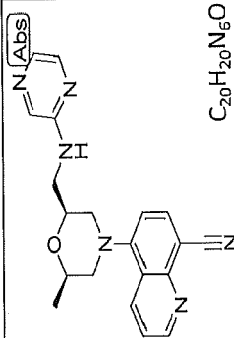
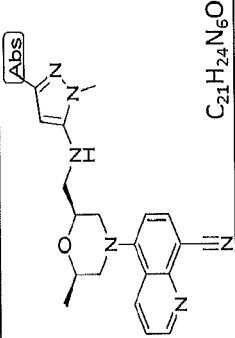
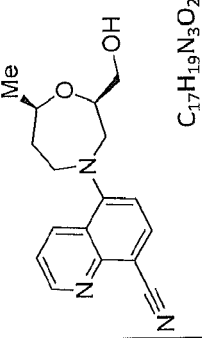
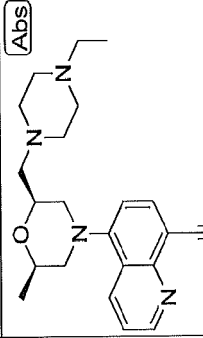
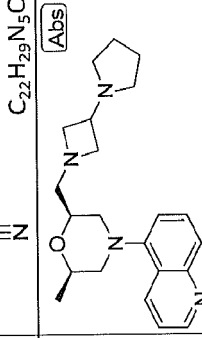
|           |                                                                                       |       |        |       |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-888895 |    | 360.4 | 0.2100 | > 30  | 5-((2R,6S)-2-methyl-6-((pyrazin-2-ylamino)methyl)morpholino)quinoline-8-carbonitrile                   |                                                                                                                                                                                                                                                                                                                                                                                  |
| ER-888977 |    | 376.5 | 0.2100 | > 2.0 | 5-((2S,6R)-2-(((1,3-dimethyl-1H-pyrazol-5-yl)amino)methyl)-6-methylmorpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                                                  |
| ER-889363 |    | 297.4 |        |       | 5-((2R,7R)-2-(hydroxymethyl)-7-methyl-1,4-oxazepan-4-yl)quinoline-8-carbonitrile                       | CDCI3/400 MHz: 1.36 (d, 3H, J= 6.4 Hz), 1.96 (m, 1H), 2.18 (dd, 1H, J= 4.4 & 8.4 Hz), 2.27 (m, 1H), 3.39 (dd, 1H, J= 8.8 & 12.8 Hz), 3.45-3.69 (m, 5H), 4.01 (m, 1H), 4.14 (m, 1H), 7.13 (d, 1H, J= 8.0 Hz), 7.51 (dd, 1H, J= 4.4 & 8.4 Hz), 8.02 (d, 1H, J= 8.0 Hz), 8.52 (dd, 1H, J= 1.2 & 8.4 Hz), 9.08 (dd, 1H, J= 1.2 & 4.4 Hz).                                            |
| ER-889448 |   | 379.5 | 0.0210 | > 2.0 | 5-((2S,6R)-2-((4-ethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.17 - 1.38 (m, 4 H) 2.33 (s, 2 H) 2.54 - 2.81 (m, 4 H) 2.88 (br. s., 1 H) 2.97 - 3.13 (m, 3 H) 3.17 (br. s., 2 H) 3.29 - 3.53 (m, 3 H) 3.95 - 4.09 (m, 1 H) 4.13 (br. s., 1 H) 7.15 - 7.40 (m, 2 H) 7.56 - 7.83 (m, 2 H) 8.11 (d, J=7.91 Hz, 1 H) 8.28 (br. s., 1 H) 8.60 (d, J=8.79 Hz, 1 H) 8.90 - 9.16 (m, 1 H) |
| ER-889469 |  | 391.5 | 0.0160 | 4.969 | 5-((2R,6S)-2-methyl-6-((3-(pyrrolidin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (d, J=6.15 Hz, 2 H) 1.88 - 2.04 (m, 3 H) 2.31 (s, 2 H) 2.53 - 2.75 (m, 2 H) 2.81 - 2.94 (m, 3 H) 2.94 - 3.09 (m, 2 H) 3.29 - 3.50 (m, 2 H) 3.61 - 3.81 (m, 2 H) 3.90 - 4.14 (m, 3 H) 7.07 - 7.29 (m, 2 H) 7.55 - 7.72 (m, 2 H) 7.99 - 8.23 (m, 2 H) 8.52 - 8.72 (m, 1 H) 8.78 - 9.01 (m, 1 H)                  |

FIG. 6KK

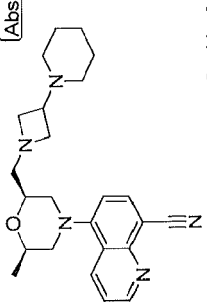
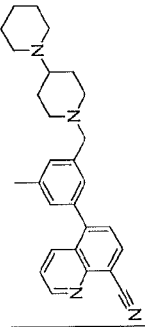
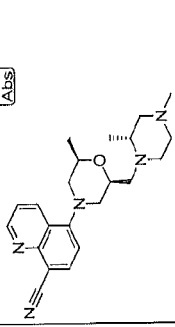
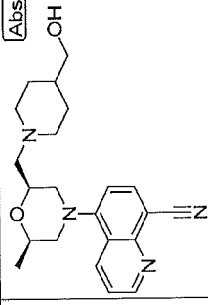
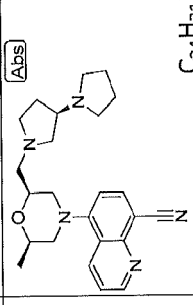
|           |                                                                                       |         |        |        |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                               |
|-----------|---------------------------------------------------------------------------------------|---------|--------|--------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ER-889470 |    | 405.5   | 0.0205 | 6.516  | 5-((2R,6S)-2-methyl-6-((3-(piperidin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.23 (d, <i>J</i> =6.45 Hz, 2 H) 1.54 (d, <i>J</i> =4.39 Hz, 2 H) 1.60 - 1.83 (m, 3 H) 2.02 (d, <i>J</i> =16.11 Hz, 1 H) 2.32 (s, 2 H) 2.48 - 2.75 (m, 4 H) 2.88 (s, 1 H) 3.02 (s, 1 H) 3.06 - 3.25 (m, 2 H) 3.29 - 3.39 (m, 2 H) 3.40 - 3.61 (m, 1 H) 3.72 - 3.94 (m, 2 H) 3.99 - 4.26 (m, 3 H) 4.90 (br. s., 1 H) 7.22 (d, <i>J</i> =7.91 Hz, 1 H) 7.18 (d, <i>J</i> =7.91 Hz, 1 H) 7.51 - 7.75 (m, 2 H) 8.12 (d, <i>J</i> =7.91 Hz, 2 H) 8.19 (br. s., 2 H) 8.39 - 8.63 (m, 1 H) 8.95 (dd, <i>J</i> =4.39, 1.46 Hz, 1 H) | LMS (ESI+) calcd for C <sub>28</sub> H <sub>32</sub> N <sub>4</sub> (M+H <sup>+</sup> ) 425.27, found: 425.48 |
| ER-889504 |    | 424.589 | 0.4590 | 0.3170 | 5-((3-((1,4-bipiperidin-1-yl)methyl)-5-methylphenyl)morpholino)quinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.44 (d, <i>J</i> =4.91 Hz, 2 H) 1.50 - 1.69 (m, 6 H) 1.79 (d, <i>J</i> =11.96 Hz, 2 H) 2.00 (td, <i>J</i> =11.75, 2.14 Hz, 2 H) 2.29 (t, <i>J</i> =11.43 Hz, 1 H) 2.45 (s, 3 H) 2.51 (br. s., 4 H) 2.99 (d, <i>J</i> =11.75 Hz, 2 H) 3.54 (s, 2 H) 7.15 (s, 1 H) 7.21 (s, 1 H) 7.24 - 7.30 (m, 1 H) 7.46 - 7.55 (m, 1 H) 7.57 (m, <i>J</i> =7.48 Hz, 1 H) 8.17 (m, <i>J</i> =7.48 Hz, 1 H) 8.33 (dd, <i>J</i> =8.55, 1.71 Hz, 1 H) 9.12 (dd, <i>J</i> =4.27, 1.71 Hz, 1 H)                                                            |                                                                                                               |
| ER-889556 |    | 379.5   | 0.0855 | > 2.0  | 5-((2S,6R)-2-(((R)-2,4-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.01 - 1.10 (m, 4 H) 1.16 - 1.23 (m, 4 H) 1.87 - 1.97 (m, 1 H) 2.16 - 2.25 (m, 5 H) 2.29 - 2.38 (m, 1 H) 2.46 - 2.70 (m, 7 H) 2.84 - 2.98 (m, 2 H) 3.25 - 3.37 (m, 3 H) 3.96 - 4.12 (m, 2 H) 4.80 - 4.85 (m, 1 H) 7.11 - 7.18 (m, 1 H) 7.52 - 7.59 (m, 1 H) 8.00 - 8.08 (m, 1 H) 8.52 - 8.59 (m, 1 H) 8.86 - 8.92 (m, 1 H)                                                                                                                                                                                                  |                                                                                                               |
| ER-889557 |   | 380.5   | 0.4970 | > 2.0  | 5-((2S,6R)-2-((4-(hydroxymethyl)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.26 (d, <i>J</i> =6.15 Hz, 3 H) 1.47 - 1.69 (m, 2 H) 1.75 (d, <i>J</i> =3.22 Hz, 1 H) 1.83 - 2.04 (m, 2 H) 2.29 (s, 1 H) 2.53 - 2.75 (m, 2 H) 2.88 (s, 1 H) 2.94 - 3.10 (m, 2 H) 3.13 - 3.25 (m, 2 H) 3.29 - 3.50 (m, 3 H) 3.53 - 3.71 (m, 2 H) 3.90 - 4.17 (m, 1 H) 4.27 - 4.50 (m, 1 H) 7.09 - 7.29 (m, 1 H) 7.53 - 7.67 (m, 1 H) 7.96 - 8.16 (m, 1 H) 8.38 (br. s., 1 H) 8.49 - 8.76 (m, 1 H) 8.77 - 8.99 (m, 1 H)                                                                                                      |                                                                                                               |
| ER-889571 |  | 405.5   | 0.0050 | 5.01   | 5-((2S,6R)-2-((R)-[1,3'-bipyrolidin]-1'-ylmethyl)-6-methylmorpholino)quinoline-8-carbonitrile      | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.18 - 1.25 (3 H, d) 1.94 - 2.01 (3 H, m) 2.29 - 2.36 (4 H, m) 2.60 - 2.73 (4 H, m) 2.91 - 3.00 (1 H, m) 3.09 - 3.19 (3 H, m) 3.32 - 3.40 (2 H, m) 7.15 - 7.26 (3 H, m) 7.58 - 7.63 (1 H, m) 7.64 - 7.71 (2 H, m) 8.08 - 8.16 (1 H, m) 8.43 - 8.49 (2 H, m) 8.57 - 8.66 (1 H, m) 8.91 - 9.01 (1 H, m)                                                                                                                                                                                                                       | LMS (ESI+) calcd for C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O (M+H <sup>+</sup> ) 406.5, found 406.4  |

FIG. 6LL

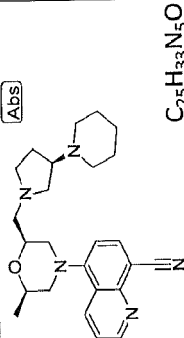
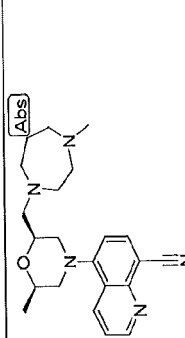
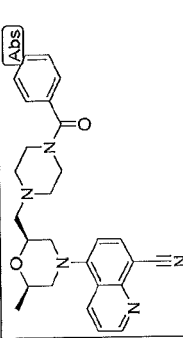
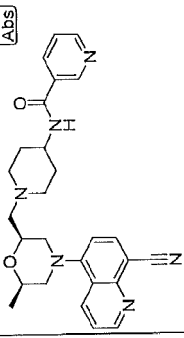
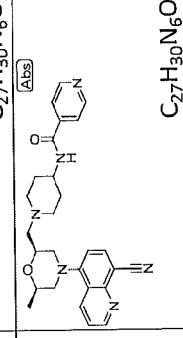
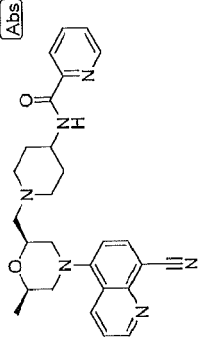
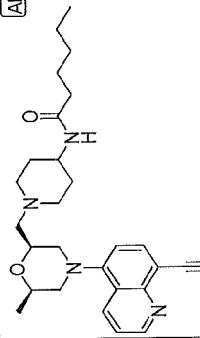
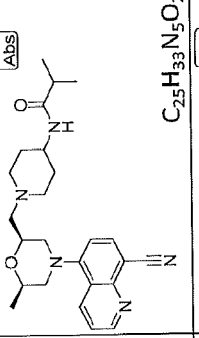
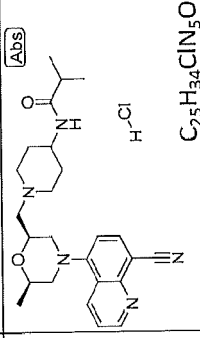
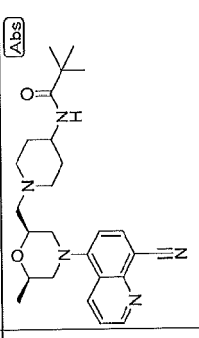
|           |                                                                                       |       |        |       |                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-889572 |    | 419.6 | 0.2515 | > 2.0 | 5-((2R,6S)-2-methyl-6-((R)-3-(piperidin-1-yl)pyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 (d, J=6.15 Hz, 3 H) 2.22 (br. s., 2 H) 2.29 (s, 4 H) 2.55 - 2.81 (m, 2 H) 2.93 (s, 2 H) 3.04 - 3.25 (m, 2 H) 3.29 - 3.40 (m, 2 H) 3.45 (br. s., 3 H) 3.66 (br. s., 3 H) 3.90 - 4.18 (m, 2 H) 4.32 (d, J=7.91 Hz, 1 H) 7.04 - 7.27 (m, 4 H) 7.38 - 7.61 (m, 1 H) 7.66 (d, J=8.20 Hz, 3 H) 7.97 - 8.12 (m, 1 H) 8.59 (d, J=7.62 Hz, 1 H) 8.92 (d, J=2.64 Hz, 1 H) 8.82 - 9.00 (m, 1 H)                                                                                                                                                                                                    |
| ER-889601 |    | 379.5 | 0.0185 | 9.4   | 5-((2R,6S)-2-methyl-6-((4-methyl-1,4-diazepan-1-yl)methyl)morpholino)quinoline-8-carbonitrile           | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (dd, J=6.15, 0.88 Hz, 4 H) 2.31 (s, 1 H) 2.58 - 2.86 (m, 8 H) 3.30 - 3.46 (m, 3 H) 3.51 (br. s., 2 H) 3.79 (br. s., 3 H) 3.91 - 4.11 (m, 2 H) 4.13 - 4.26 (m, 1 H) 7.04 - 7.30 (m, 2 H) 7.31 - 7.46 (m, 6 H) 7.49 - 7.70 (m, 2 H) 7.76 - 8.00 (m, 2 H) 8.04 - 8.19 (m, 2 H) 8.47 - 8.62 (m, 1 H) 8.78 - 8.95 (m, 1 H)                                                                                                                                                                                                                                                                   |
| ER-889602 |    | 455.6 | 0.0530 | > 2.0 | 5-((2S,6R)-2-((4-benzoylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile              | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (dd, J=6.15, 0.88 Hz, 4 H) 2.31 (s, 1 H) 2.58 - 2.86 (m, 8 H) 3.30 - 3.46 (m, 3 H) 3.51 (br. s., 2 H) 3.79 (br. s., 3 H) 3.91 - 4.11 (m, 2 H) 4.13 - 4.26 (m, 1 H) 7.04 - 7.30 (m, 2 H) 7.31 - 7.46 (m, 6 H) 7.49 - 7.70 (m, 2 H) 7.76 - 8.00 (m, 2 H) 8.04 - 8.19 (m, 2 H) 8.47 - 8.62 (m, 1 H) 8.78 - 8.95 (m, 1 H)                                                                                                                                                                                                                                                                   |
| ER-889728 |   | 470.6 | 0.0370 | > 2.0 | N-((1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)nicotinamide      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.06 (s, 1 H) 1.22 (d, J=6.45 Hz, 1 H) 1.30 (s, 1 H) 1.40 (s, 1 H) 1.47 (s, 1 H) 1.69 (br. s., 1 H) 1.92 (br. s., 1 H) 2.26 (s, 1 H) 2.51 (s, 1 H) 2.66 (s, 1 H) 2.62 (s, 1 H) 3.01 (s, 1 H) 3.17 (br. s., 1 H) 3.21 - 3.30 (m, 2 H) 3.34 (br. s., 1 H) 3.39 (br. s., 1 H) 3.87 (s, 1 H) 4.06 (br. s., 1 H) 4.15 (br. s., 1 H) 4.21 (s, 1 H) 4.37 (s, 1 H) 4.84 (s, 2 H) 5.00 (br. s., 1 H) 7.22 (d, J=8.20 Hz, 1 H) 7.50 (br. s., 1 H) 7.59 (br. s., 1 H) 7.82 (br. s., 1 H) 8.12 (d, J=7.62 Hz, 1 H) 8.21 (br. s., 1 H) 8.35 - 8.56 (m, 1 H) 8.56 - 8.78 (m, 1 H) 8.93 (d, J=4.10 Hz, 1 H) |
| ER-889729 |  | 470.6 | 0.0220 | > 2.0 | N-((1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)isonicotinamide   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.06 (s, 1 H) 1.22 (d, J=6.45 Hz, 1 H) 1.30 (s, 1 H) 1.40 (s, 1 H) 1.47 (s, 1 H) 1.69 (br. s., 1 H) 1.92 (br. s., 1 H) 2.26 (s, 1 H) 2.51 (s, 1 H) 2.66 (s, 1 H) 2.62 (s, 1 H) 3.01 (s, 1 H) 3.17 (br. s., 1 H) 3.21 - 3.30 (m, 2 H) 3.34 (br. s., 1 H) 3.39 (br. s., 1 H) 3.87 (s, 1 H) 4.06 (br. s., 1 H) 4.15 (br. s., 1 H) 4.21 (s, 1 H) 4.37 (s, 1 H) 4.84 (s, 2 H) 5.00 (br. s., 1 H) 7.22 (d, J=8.20 Hz, 1 H) 7.50 (br. s., 1 H) 7.59 (br. s., 1 H) 7.82 (br. s., 1 H) 8.12 (d, J=7.62 Hz, 1 H) 8.21 (br. s., 1 H) 8.35 - 8.56 (m, 1 H) 8.56 - 8.78 (m, 1 H) 8.93 (d, J=4.10 Hz, 1 H) |

FIG. 6MM

|           |                                                                                                                                                                                      |       |        |                  |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-889734 | <br>C <sub>27</sub> H <sub>30</sub> N <sub>6</sub> O <sub>2</sub>                                 | 470.6 | 0.2690 | > 2.0            | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)picolinamide                | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.28 (d, J=6.15 Hz, 3 H) 1.75 - 1.97 (m, 2 H) 2.08 (br. s., 2 H) 2.59 - 2.84 (m, 3 H) 2.84 - 3.09 (m, 2 H) 3.24 - 3.49 (m, 4 H) 3.94 - 4.22 (m, 2 H) 4.30 (br. s., 1 H) 7.26 (d, J=8.20 Hz, 1 H) 7.51 - 7.60 (m, 1 H) 7.64 (dd, J=8.50, 4.39 Hz, 1 H) 7.91 - 8.02 (m, 1 H) 8.04 - 8.30 (m, 2 H) 8.45 (s, 1 H) 8.55 - 8.82 (m, 2 H) 8.94 - 9.16 (m, 1 H)                                                                                                                                                    |
| ER-889744 | <br>C <sub>27</sub> H <sub>30</sub> N <sub>6</sub> O <sub>2</sub>                                 | 463.6 | 0.0590 | > 2.0            | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)hexanamide                  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.72 - 0.96 (m, 2 H) 1.13 - 1.39 (m, 4 H) 1.46 - 1.75 (m, 3 H) 1.77 (s, 1 H) 1.88 (s, 1 H) 2.03 - 2.28 (m, 2 H) 2.40 (br. s., 1 H) 2.51 - 2.80 (m, 2 H) 2.91 (br. s., 1 H) 3.06 (d, J=6.45 Hz, 1 H) 3.17 (br. s., 1 H) 3.24 - 3.33 (m, 2 H) 3.33 - 3.55 (m, 2 H) 3.70 (br. s., 1 H) 4.07 (br. s., 1 H) 4.20 (br. s., 1 H) 4.87 (s, 3 H) 7.24 (d, J=8.20 Hz, 1 H) 7.63 (dd, J=8.50, 4.39 Hz, 1 H) 7.85 (s, 1 H) 8.14 (d, J=7.91 Hz, 1 H) 8.50 (s, 1 H) 8.57 - 8.81 (m, 1 H) 8.97 (dd, J=4.39, 1.46 Hz, 1 H) |
| ER-889745 | <br>C <sub>25</sub> H <sub>33</sub> N <sub>5</sub> O <sub>2</sub>                                 | 435.6 | 0.0675 | 0.0052?<br>>10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)isobutyramide               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ER-889745 | <br>C <sub>25</sub> H <sub>33</sub> N <sub>5</sub> O <sub>2</sub> H <sup>+</sup> Cl <sup>-</sup> | 472.0 | 0.0062 | > 10.0           | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)isobutyramide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.97 - 1.08 (7 H, m) 1.11 - 1.17 (2 H, m) 1.20 - 1.29 (5 H, m) 1.96 - 2.04 (2 H, m) 2.32 - 2.45 (1 H, m) 2.60 - 2.74 (2 H, m) 2.95 - 3.03 (1 H, m) 3.32 - 3.40 (2 H, m) 7.19 - 7.26 (1 H, m) 7.57 - 7.66 (1 H, m) 8.08 - 8.17 (1 H, m) 8.26 - 8.37 (5 H, m) 8.59 - 8.66 (1 H, m) 8.92 - 8.99 (1 H, m)                                                                                                                                                                                                      |
| ER-889746 | <br>C <sub>26</sub> H <sub>35</sub> N <sub>5</sub> O <sub>2</sub>                               | 449.6 | 0.1100 | 0.0049           | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)pivalamide                  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.18 (s, 2 H) 1.28 (t, J=6.15 Hz, 2 H) 1.44 (s, 1 H) 1.72 - 1.90 (m, 2 H) 1.93 (br. s., 1 H) 2.02 (br. s., 1 H) 2.23 (d, J=9.96 Hz, 1 H) 2.57 - 2.83 (m, 2 H) 2.92 (d, J=7.62 Hz, 1 H) 3.08 (br. s., 1 H) 3.20 - 3.35 (m, 3 H) 3.35 - 3.56 (m, 2 H) 3.89 (br. s., 2 H) 4.13 (br. s., 1 H) 4.29 (br. s., 1 H) 4.34 (br. s., 1 H) 4.88 (s, 3 H) 7.23 - 7.45 (m, 1 H) 7.56 - 7.82 (m, 1 H) 8.11 - 8.24 (m, 1 H) 8.32 (s, 1 H) 8.66 (d, J=8.79 Hz, 1 H) 8.95 - 9.11 (m, 1 H)                                   |

LCMS (ESI+) calcd  
for C<sub>25</sub>H<sub>33</sub>N<sub>5</sub>O<sub>2</sub>  
(M+H<sup>+</sup>) 436.5,  
found 436.6

FIG. 6NN

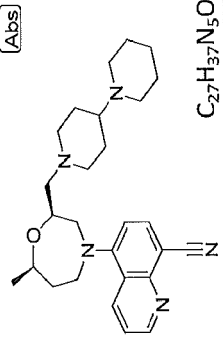
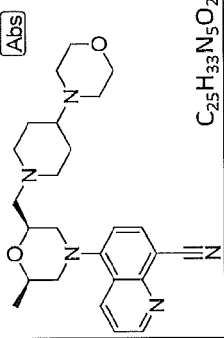
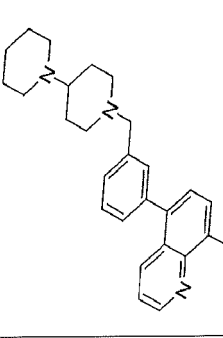
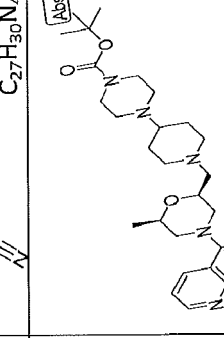
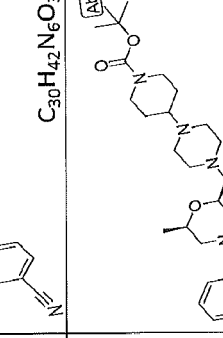
|           |                                                                                       |         |        |        |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
|-----------|---------------------------------------------------------------------------------------|---------|--------|--------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| ER-889822 |    | 447.6   | 0.1470 | 0.155  | 5-((2S,7R)-2-([1,4'-bipiperidin]-1'-yl)methyl)-7-methyl-1,4-oxazepan-4-yl)quinoline-8-carbonitrile                       | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> ) δ ppm 1.30 (3 H), 1.58 (5 H), 1.77 (3 H), 1.9 (3 H), 2.02 (2 H), 2.20 (2 H), 2.35 (1 H), 2.49 (2 H), 2.67 (3 H), 2.84 (1 H), 3.04 (1 H), 3.28 (1 H), 3.49 (2 H), 3.63 (1 H), 3.96 (1 H), 4.06 (1 H), 7.12 (1 H), 7.48 (1 H), 7.99 (1 H), 8.50 (1 H), 9.05 (1 H).                                                  | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>37</sub> N <sub>5</sub> O (M+H+) 448.6, found 448.5                 |
| ER-890093 |    | 435.6   | 0.0400 | > 2.0  | 5-((2R,6S)-2-methyl-6-((4-morpholinopiperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                            | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) δ ppm 1.19 (3 H), 1.71 (1 H), 1.99 (1 H), 2.42 (1 H), 2.68 (6 H), 3.06 (1 H), 3.21 (1 H), 3.32 (6 H), 3.40 (2 H), 3.66 (4 H), 4.03 (1 H), 4.36 (1 H), 7.25 (1 H), 7.70 (1 H), 8.28 (1 H), 8.60 (1 H), 9.07 (1 H).                                                                                               | LCMS (ESI+) calcd for C <sub>25</sub> H <sub>33</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 436.27, found: 436.41 |
| ER-890094 |    | 410.562 | 0.7930 | 0.3870 | 5-((3-([1,4'-bipiperidin]-1'-yl)methyl)phenyl)quinoline-8-carbonitrile                                                   | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.56 (2 H), 1.81 (6 H), 2.06 (4 H), 2.78 (4 H), 3.04 (3 H), 3.61 (2 H), 7.35 (1 H), 7.47 (4 H), 7.58 (1 H), 8.18 (1 H), 8.30 (1 H), 9.13 (1 H).                                                                                                                                                                   | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>30</sub> N <sub>4</sub> (M+H+) 411.25, found: 411.39                |
| ER-890104 |   | 534.7   | 0.2880 | 2.845  | tert-butyl 4-(1-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)piperazine-1-carboxylate  |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                  |
| ER-890105 |  | 534.7   | 0.1020 | 7.002  | tert-butyl 4-(4-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperazin-1-yl)piperidine-1-carboxylate | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.27 (d, J=6.41 Hz, 4 H) 1.40 (m, 1 H) 1.57 (s, 9 H) 1.80 (m, 2 H) 2.35 (m, 1 H) 2.50 - 2.74 (m, 12 H) 3.24 - 3.35 (m, 1 H) 3.41 (d, J=11.75 Hz, 1 H) 3.97 - 4.13 (m, 2 H) 7.09 (d, J=8.12 Hz, 1 H) 7.47 - 7.55 (m, 1 H) 8.05 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.55, 1.71 Hz, 1 H) 9.08 (dd, J=4.06, 1.71 Hz, 1 H) | LCMS (ESI+) calcd for C <sub>30</sub> H <sub>42</sub> N <sub>6</sub> O <sub>3</sub> (M+H+) 535.34, found: 535.49 |

FIG. 600

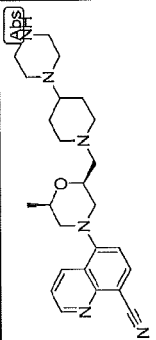
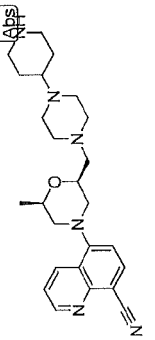
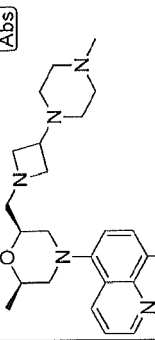
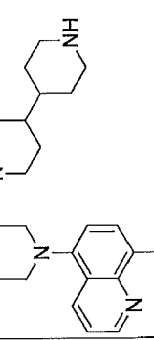
|           |                                                                                       |       |        |        |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                              |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| ER-890106 |    | 434.6 | 0.0209 | 0.0973 | 5-((2R,6S)-2-methyl-6-((4-(piperazin-1-yl)piperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.26 (d, J=6.20 Hz, 3 H) 1.44 - 1.62 (m, 2 H) 1.62 - 1.88 (m, 4 H) 1.95 - 2.07 (m, 1 H) 2.08 - 2.26 (m, 2 H) 2.38 - 2.47 (m, 1 H) 2.47 - 2.59 (m, 4 H) 2.59 - 2.72 (m, 2 H) 2.81 - 2.95 (m, 4 H) 3.03 - 3.15 (m, 1 H) 3.23 - 3.33 (m, 1 H) 3.33 - 3.50 (m, 1 H) 3.50 - 3.62 (m, 1 H) 3.94 - 4.11 (m, 2 H) 7.00 - 7.14 (m, 1 H) 7.50 (dd, J=8.55, 4.27 Hz, 1 H) 7.97 - 8.08 (m, 1 H) 8.45 (dd, J=8.55, 1.71 Hz, 1 H) 9.00 - 9.12 (m, 1 H)            | LCMS (ESI+) calcd for C25H34N6O (M+H+) 435.28, found: 435.41 |
| ER-890107 |    | 434.6 | 0.2173 | 0.7285 | 5-((2R,6S)-2-methyl-6-((4-(piperidin-4-yl)piperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.26 (d, J=6.20 Hz, 3 H) 1.39 (qd, J=12.03, 4.06 Hz, 2 H) 1.82 (m, 2 H) 2.32 (tt, J=11.43, 3.63 Hz, 1 H) 2.48 (d, J=6.20 Hz, 1 H) 2.44 - 2.77 (m, 5 H) 3.13 - 3.16 (m, 2 H) 3.29 (dt, J=11.70, 1.95 Hz, 1 H) 3.36 - 3.48 (m, 1 H) 3.95 - 4.15 (m, 2 H) 7.09 (d, J=7.90 Hz, 1 H) 7.51 (dd, J=8.55, 4.27 Hz, 1 H) 8.04 (d, J=7.90 Hz, 1 H) 8.46 (dd, J=8.55, 1.71 Hz, 1 H) 9.08 (dd, J=4.06, 1.71 Hz, 1 H)                                            | LCMS (ESI+) calcd for C25H34N6O (M+H+) 435.28, found: 435.41 |
| ER-890108 |    | 420.6 | 0.1570 | > 2.0  | 5-((2R,6S)-2-methyl-6-((3-(4-methylpiperazin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.11 - 1.30 (m, 3 H) 1.35 - 1.46 (m, 1 H) 2.04 (s, 1 H) 2.45 (br. s., 1 H) 2.55 - 2.81 (m, 3 H) 2.87 - 3.03 (m, 6 H) 3.05 - 3.15 (m, 1 H) 3.20 (br. s., 1 H) 3.29 - 3.41 (m, 3 H) 3.42 - 3.67 (m, 3 H) 4.07 (br. s., 1 H) 4.10 - 4.23 (m, 1 H) 4.90 (br. s., 1 H) 7.23 (d, J=8.20 Hz, 2 H) 7.61 (dd, J=8.50, 4.10 Hz, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.34 (br. s., 2 H) 8.55 - 8.78 (m, 1 H) 8.90 - 9.04 (m, 1 H)                        |                                                              |
| ER-890112 |   | 433.6 | 0.0290 | 0.103  | 5-((2S,6R)-2-((4,4'-bipiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                   | <sup>1</sup> H NMR (400 MHz, DICHLOROMETHANE-d <sub>2</sub> ) δ ppm 1.19 - 1.41 (m, 6 H) 1.47 - 1.62 (m, 4 H) 1.76 - 1.89 (m, 5 H) 2.42 - 2.54 (m, 2 H) 2.59 - 2.66 (m, 2 H) 2.71 - 2.82 (m, 3 H) 2.90 - 2.96 (m, 1 H) 3.24 - 3.40 (m, 6 H) 3.61 (d, J=12.01 Hz, 1 H) 3.98 - 4.06 (m, 1 H) 4.36 (dd, J=9.96, 7.62 Hz, 1 H) 5.30 - 5.31 (m, 1 H) 7.05 (d, J=7.91 Hz, 1 H) 7.52 (dd, J=8.50, 4.10 Hz, 1 H) 8.01 (d, J=7.91 Hz, 1 H) 8.36 (s, 3 H) 8.47 (dd, J=8.50, 1.46 Hz, 1 H) 9.00 - 9.02 (m, 1 H) |                                                              |
| ER-890113 |  | 475.6 | 0.1200 | > 2.0  | 5-((2S,6R)-2-((1'-acetyl-[4,4'-bipiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                              |

FIG. 6PP

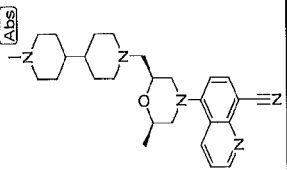
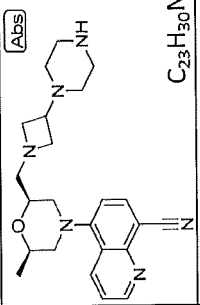
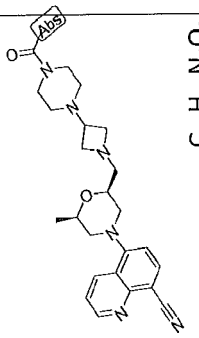
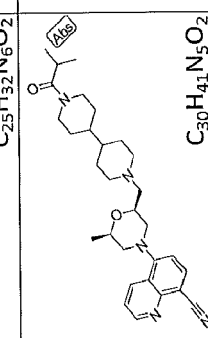
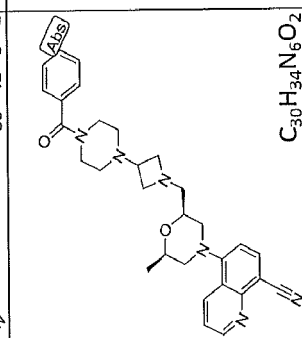
|           |                                                                                       |       |        |        |                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-890114 |    | 447.6 | 0.0045 | 0.0665 | 5-((2R,6S)-2-methyl-6-((1'-methyl-[4,4'-bipiperidin]-1-yl)methyl)morpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.27 (d, <i>J</i> =6.15 Hz, 3 H) 1.49 (br. s., 3 H) 1.55 (s, 2 H) 1.59 (s, 1 H) 1.86 (s, 1 H) 1.99 (s, 2 H) 2.33 (s, 3 H) 2.51 - 2.79 (m, 3 H) 3.26 - (s, 2 H) 2.90 - 3.08 (m, 3 H) 3.10 - 3.26 (m, 2 H) 3.26 - 3.33 (m, 2 H) 3.39 (d, <i>J</i> =12.60 Hz, 2 H) 3.50 (d, <i>J</i> =10.84 Hz, 2 H) 3.57 - 3.78 (m, 2 H) 4.12 (d, <i>J</i> =6.15 Hz, 1 H) 4.43 (br. s., 2 H) 4.52 - 4.68 (m, 1 H) 4.77 - 5.03 (m, 6 H) 7.16 - 7.42 (m, 3 H) 7.58 - 7.79 (m, 2 H) 8.14 (d, <i>J</i> =7.91 Hz, 1 H) 8.30 (br. s., 2 H) 8.64 (dd, <i>J</i> =8.50, 1.47 Hz, 2 H) 8.97 (dd, <i>J</i> =4.39, 1.46 Hz, 2 H) |
| ER-890119 |    | 406.5 | 0.0110 | 0.141  | 5-((2R,6S)-2-methyl-6-((3-(piperazin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.25 (d, <i>J</i> =6.45 Hz, 3 H) 2.52 - 2.78 (m, 6 H) 3.01 - 3.25 (m, 4 H) 3.29 - 3.53 (m, 5 H) 3.97 - 4.16 (m, 3 H) 4.16 - 4.44 (m, 4 H) 7.23 (d, <i>J</i> =8.20 Hz, 1 H) 7.61 (dd, <i>J</i> =8.50, 4.39 Hz, 1 H) 8.05 - 8.21 (m, 2 H) 8.60 (dd, <i>J</i> =8.50, 1.76 Hz, 2 H) 8.89 - 9.11 (m, 1 H)                                                                                                                                                                                                                                                                                               |
| ER-890120 |    | 448.6 | 0.1340 | > 2.0  | 5-((2S,6R)-2-((3-(4-acetylpiperazin-1-yl)azetidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.24 (d, <i>J</i> =6.15 Hz, 3 H) 2.00 (s, 1 H) 2.06 (s, 3 H) 2.31 - 2.41 (m, 4 H) 2.61 - 2.74 (m, 2 H) 3.21 - 3.25 (m, 1 H) 3.29 - 3.39 (m, 3 H) 3.52 - 3.60 (m, 4 H) 3.89 - 3.98 (m, 2 H) 4.04 - 4.09 (m, 1 H) 4.14 - 4.22 (m, 3 H) 4.85 (s, 5 H) 7.23 (d, <i>J</i> =7.91 Hz, 1 H) 7.61 (dd, <i>J</i> =8.50, 4.39 Hz, 1 H) 8.12 (d, <i>J</i> =7.91 Hz, 1 H) 8.32 (s, 2 H) 8.58 - 8.62 (m, 1 H) 8.95 (dd, <i>J</i> =4.10, 1.76 Hz, 1 H)                                                                                                                                                            |
| ER-890121 |   | 503.7 | 0.2420 | > 2.0  | 5-((2S,6R)-2-((1'-isobutyl-4'-bipiperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile          | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 0.98 - 1.24 (m, 6 H) 1.29 (d, <i>J</i> =6.15 Hz, 2 H) 1.48 (br. s., 1 H) 1.51 - 1.69 (m, 2 H) 1.70 - 1.95 (m, 2 H) 1.95 - 2.18 (m, 2 H) 2.33 (s, 1 H) 2.43 - 2.63 (m, 1 H) 2.63 - 2.83 (m, 2 H) 2.87 - 3.13 (m, 3 H) 3.17 - 3.34 (m, 3 H) 3.34 - 3.53 (m, 2 H) 3.67 (d, <i>J</i> =11.43 Hz, 2 H) 4.04 - 4.26 (m, 2 H) 4.43 (br. s., 1 H) 4.59 (d, <i>J</i> =12.31 Hz, 1 H) 4.87 (s, 3 H) 7.15 - 7.42 (m, 2 H) 7.59 - 7.81 (m, 1 H) 8.15 (d, <i>J</i> =7.91 Hz, 1 H) 8.25 (s, 1 H) 8.59 - 8.80 (m, 1 H) 8.94 - 9.16 (m, 1 H)                                                                        |
| ER-890122 |  | 510.6 | 0.0600 | 6.11   | 5-((2S,6R)-2-((3-(4-benzoylpiperazin-1-yl)azetidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.26 (d, <i>J</i> =6.15 Hz, 3 H) 2.34 (br. s., 2 H) 2.46 (br. s., 2 H) 2.54 - 2.80 (m, 2 H) 2.94 - 3.22 (m, 2 H) 3.23 - 3.44 (m, 4 H) 3.48 (br. s., 2 H) 3.61 - 3.88 (m, 4 H) 4.00 - 4.22 (m, 3 H) 4.82 - 5.05 (m, 3 H) 7.25 (d, <i>J</i> =7.91 Hz, 1 H) 7.35 - 7.55 (m, 3 H) 7.55 - 7.79 (m, 2 H) 8.02 - 8.28 (m, 1 H) 8.42 (s, 1 H) 8.52 - 8.80 (m, 2 H) 8.92 - 9.11 (m, 1 H)                                                                                                                                                                                                                    |

FIG. 6QQ

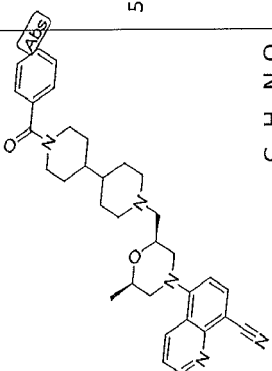
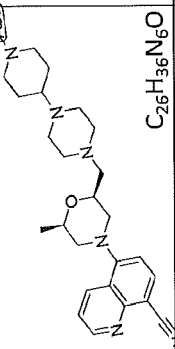
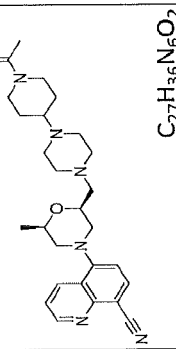
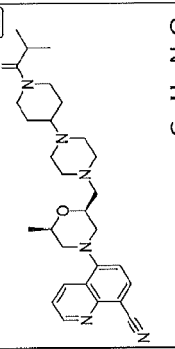
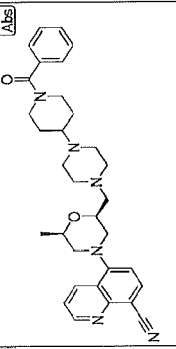
|           |                                                                                       |       |        |        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                    |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| ER-890142 |    | 537.7 | 0.0880 | 1.271  | 5-((2S,6R)-2-((1'-benzoyl-[4,4'-bipiperidin]-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile         | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 (br. s., 2 H) 1.24 - 1.37 (m, 3 H) 1.40 - 1.67 (m, 4 H) 1.71 (d, <i>J</i> =13.48 Hz, 1 H) 1.88 (br. s., 1 H) 1.93 - 2.15 (m, 2 H) 2.31 (s, 1 H) 2.62 - 2.89 (m, 3 H) 2.90 - 3.14 (m, 3 H) 3.15 - 3.32 (m, 3 H) 3.33 - 3.53 (m, 2 H) 3.55 - 3.81 (m, 3 H) 4.07 - 4.20 (m, 1 H) 4.29 - 4.56 (m, 1 H) 4.68 (d, <i>J</i> =9.67 Hz, 1 H) 4.87 (d, <i>J</i> =0.59 Hz, 2 H) 7.09 - 7.31 (m, 2 H) 7.33 - 7.49 (m, 4 H) 7.51 - 7.69 (m, 2 H) 7.84 - 8.06 (m, 1 H) 8.13 (dd, <i>J</i> =7.91, 0.88 Hz, 1 H) 8.31 (d, <i>J</i> =0.88 Hz, 1 H) 8.49 - 8.70 (m, 1 H) 8.90 - 8.99 (m, 1 H) | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.26 (d, <i>J</i> =6.20 Hz, 3 H) 1.48 - 1.66 (m, 2 H) 1.66 - 1.85 (m, 4 H) 1.85 - 2.00 (m, 2 H) 2.15 - 2.32 (m, 4 H) 2.37 - 2.74 (m, 12 H) 2.90 (d, 2 H) 3.29 (d, <i>J</i> =11.86, 1.98 Hz, 1 H) 3.35 - 3.48 (m, 1 H) 3.92 - 4.15 (m, 2 H) 7.08 (d, <i>J</i> =8.12 Hz, 1 H) 7.50 (dd, <i>J</i> =8.55, 4.27 Hz, 1 H) 8.04 (d, <i>J</i> =7.90 Hz, 1 H) 8.45 (dd, <i>J</i> =8.65, 1.82 Hz, 1 H) 9.08 (dd, <i>J</i> =4.06, 1.71 Hz, 1 H) | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>36</sub> N <sub>6</sub> O (M+H+) 449.30, found: 449.4 |
| ER-890186 |    | 448.6 | 0.0135 | 1.3615 | 5-((2R,6S)-2-methyl-6-((4-(1-methylpiperidin-4-yl)piperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.26 (d, <i>J</i> =6.20 Hz, 3 H) 1.31 - 1.50 (m, 2 H) 1.79 - 1.95 (m, 2 H) 2.09 (s, 3 H) 2.42 - 2.71 (m, 12 H) 2.95 - 3.12 (m, 1 H) 3.29 (d, <i>J</i> =11.75 Hz, 1 H) 3.41 (dd, <i>J</i> =11.96, 2.14 Hz, 1 H) 3.78 - 3.90 (m, 1 H) 3.94 - 4.16 (m, 2 H) 4.57 - 4.69 (m, 1 H) 7.09 (d, <i>J</i> =7.90 Hz, 1 H) 7.51 (dd, <i>J</i> =8.55, 4.27 Hz, 1 H) 8.04 (d, <i>J</i> =7.90 Hz, 1 H) 8.45 (dd, <i>J</i> =8.55, 1.71 Hz, 1 H) 9.08 (dd, <i>J</i> =4.17, 1.60 Hz, 1 H)                                                                                                                     | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>36</sub> N <sub>6</sub> O <sub>2</sub> (M+H+) 477.29, found: 477.39                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
| ER-890187 |    | 476.6 | 0.0870 | > 2.0  | 5-((2S,6R)-2-((4-(1-acetylpiperidin-4-yl)piperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile   | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.06 - 1.20 (m, 6 H) 1.26 (d, <i>J</i> =6.20 Hz, 3 H) 1.32 - 1.52 (m, 2 H) 1.89 (t, <i>J</i> =14.31 Hz, 2 H) 2.41 - 2.71 (m, 12 H) 2.74 - 2.88 (m, 1 H) 3.02 (t, <i>J</i> =12.39 Hz, 1 H) 3.29 (d, <i>J</i> =11.75 Hz, 1 H) 3.41 (d, <i>J</i> =11.96 Hz, 1 H) 3.90 - 4.18 (m, 3 H) 4.67 (d, <i>J</i> =12.60 Hz, 1 H) 7.09 (d, <i>J</i> =8.12 Hz, 1 H) 7.51 (dd, <i>J</i> =8.55, 4.06 Hz, 1 H) 8.04 (d, <i>J</i> =7.90 Hz, 1 H) 8.45 (dd, <i>J</i> =8.55, 1.50 Hz, 1 H) 9.08 (dd, <i>J</i> =4.06, 1.50 Hz, 1 H)                                                                              | LCMS (ESI+) calcd for C <sub>29</sub> H <sub>40</sub> N <sub>6</sub> O <sub>2</sub> (M+H+) 505.32, found: 505.44                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
| ER-890188 |   | 504.7 | 0.0870 | > 2.0  | 5-((2S,6R)-2-((4-(1-isobutylpiperidin-4-yl)piperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.26 (d, <i>J</i> =6.20 Hz, 3 H) 1.32 - 1.53 (m, 2 H) 1.80 - 1.96 (m, 2 H) 2.03 (s, 1 H) 2.36 - 2.74 (m, 12 H) 2.79 (m, 1 H) 3.00 (m, 1 H) 3.29 (d, <i>J</i> =11.75 Hz, 1 H) 3.41 (d, <i>J</i> =11.75 Hz, 1 H) 3.80 (br. s., 1 H) 3.94 - 4.16 (m, 2 H) 4.74 (br. s., 1 H) 7.09 (d, <i>J</i> =8.12 Hz, 1 H) 7.34 - 7.45 (m, 5 H) 7.51 (dd, <i>J</i> =8.55, 4.27 Hz, 1 H) 8.04 (d, <i>J</i> =7.90 Hz, 1 H) 8.46 (dd, <i>J</i> =8.55, 1.50 Hz, 1 H) 9.08 (dd, <i>J</i> =4.27, 1.50 Hz, 1 H)                                                                                                    | LCMS (ESI+) calcd for C <sub>32</sub> H <sub>38</sub> N <sub>6</sub> O <sub>2</sub> (M+H+) 539.31, found: 539.42                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |
| ER-890189 |  | 538.7 | 0.1100 | > 2.0  | 5-((2S,6R)-2-((4-(1-benzoylpiperidin-4-yl)piperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM- <i>d</i> ) δ ppm 1.26 (d, <i>J</i> =6.20 Hz, 3 H) 1.32 - 1.53 (m, 2 H) 1.80 - 1.96 (m, 2 H) 2.03 (s, 1 H) 2.36 - 2.74 (m, 12 H) 2.79 (m, 1 H) 3.00 (m, 1 H) 3.29 (d, <i>J</i> =11.75 Hz, 1 H) 3.41 (d, <i>J</i> =11.75 Hz, 1 H) 3.80 (br. s., 1 H) 3.94 - 4.16 (m, 2 H) 4.74 (br. s., 1 H) 7.09 (d, <i>J</i> =8.12 Hz, 1 H) 7.34 - 7.45 (m, 5 H) 7.51 (dd, <i>J</i> =8.55, 4.27 Hz, 1 H) 8.04 (d, <i>J</i> =7.90 Hz, 1 H) 8.46 (dd, <i>J</i> =8.55, 1.50 Hz, 1 H) 9.08 (dd, <i>J</i> =4.27, 1.50 Hz, 1 H)                                                                                                    | LCMS (ESI+) calcd for C <sub>32</sub> H <sub>38</sub> N <sub>6</sub> O <sub>2</sub> (M+H+) 539.31, found: 539.42                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                    |

FIG. 6RR

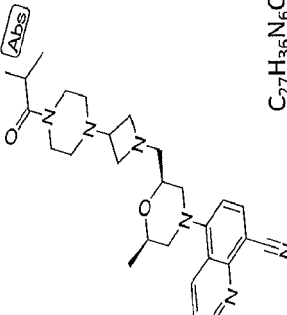
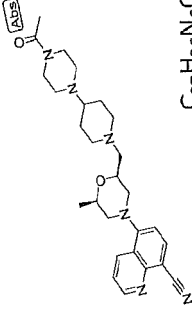
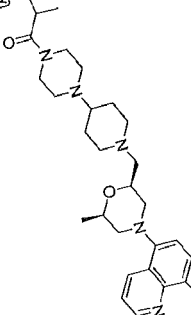
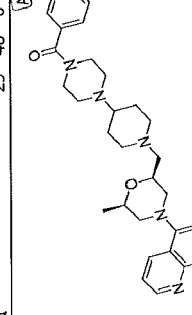
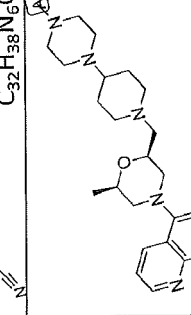
|           |                                                                                                                 |       |        |       |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| ER-890190 | <br><chem>C27H36N6O2</chem>  | 476.6 | 0.2150 | > 30  | 5-((2S,6R)-2-((3-(4-isobutyrylpiperazin-1-yl)azetidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.27 (3 H), 1.67 (3 H), 1.86 (3 H), 2.09 (3 H), 2.59 (10 H), 3.28 (2 H), 3.47 (4 H), 3.64 (2 H), 4.07 (1 H), 7.08 (1 H), 7.54 (1 H), 8.03 (1 H), 8.50 (1 H), 9.08 (1 H).                                                                                                          | LCMS (ESI+) calcd for C <sub>29</sub> H <sub>40</sub> N <sub>6</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 505.32, found: 505.49 |
| ER-890219 | <br><chem>C27H36N6O2</chem>  | 476.6 | 0.1110 | 6.44  | 5-((2S,6R)-2-((4-(4-acetylpiperazin-1-yl)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.12 (6 H), 1.26 (3 H), 1.72 (2 H), 1.85 (2 H), 2.35 (3 H), 2.55 (4 H), 2.64 (4 H), 2.78 (1 H), 3.06 (1 H), 3.28 (2 H), 3.43 (1 H), 3.53 (2 H), 3.64 (2 H), 4.05 (1 H), 4.25 (1 H), 7.07 (1 H), 7.52 (1 H), 8.03 (1 H), 8.48 (1 H), 9.07 (1 H).                                   | LCMS (ESI+) calcd for C <sub>29</sub> H <sub>40</sub> N <sub>6</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 505.32, found: 505.49 |
| ER-890221 | <br><chem>C29H40N6O2</chem>  | 504.7 | 0.1240 | 3.82  | 5-((2S,6R)-2-((4-(4-isobutyrylpiperazin-1-yl)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.12 (6 H), 1.26 (3 H), 1.72 (2 H), 1.85 (2 H), 2.35 (3 H), 2.55 (4 H), 2.64 (4 H), 2.78 (1 H), 3.06 (1 H), 3.28 (2 H), 3.43 (1 H), 3.53 (2 H), 3.64 (2 H), 4.05 (1 H), 4.25 (1 H), 7.07 (1 H), 7.52 (1 H), 8.03 (1 H), 8.48 (1 H), 9.07 (1 H).                                   | LCMS (ESI+) calcd for C <sub>29</sub> H <sub>40</sub> N <sub>6</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 505.32, found: 505.49 |
| ER-890222 | <br><chem>C32H38N6O2</chem> | 538.7 | 0.1130 | 3.05  | 5-((2S,6R)-2-((4-(4-benzoylpiperazin-1-yl)piperidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.22 (3 H), 1.57 (2 H), 1.86 (2 H), 2.12 (2 H), 2.31 (1 H), 2.45 (1 H), 2.53 (2 H), 2.64 (4 H), 1.22 (1 H), 3.17 (1 H), 3.33 (4 H), 3.38 (1 H), 3.44 (1 H), 3.76 (1 H), 4.04 (1 H), 4.12 (1 H), 7.22 (1 H), 7.39 (2 H), 7.45 (3 H), 7.62 (1 H), 8.12 (1 H), 8.63 (1 H), 8.96 (1 H). | LCMS (ESI+) calcd for C <sub>32</sub> H <sub>38</sub> N <sub>6</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 539.31, found: 539.52 |
| ER-890223 | <br><chem>C26H36N6O</chem> | 448.6 | 0.0137 | 0.181 | 5-((2R,6S)-2-methyl-6-((4-(4-methylpiperazin-1-yl)piperidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.24 (3 H), 1.58 (2 H), 1.83 (2 H), 2.07 (1 H), 2.18 (1 H), 2.36 (4 H), 2.47 (1 H), 2.64 (11 H), 2.95 (1 H), 3.13 (1 H), 3.27 (1 H), 3.41 (1 H), 4.01 (1 H), 4.07 (1 H), 7.06 (1 H), 7.49 (1 H), 8.02 (1 H), 8.44 (1 H), 9.05 (1 H).                                              | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>36</sub> N <sub>6</sub> O (M+H <sup>+</sup> ) 449.30, found: 449.41              |

FIG. 6SS

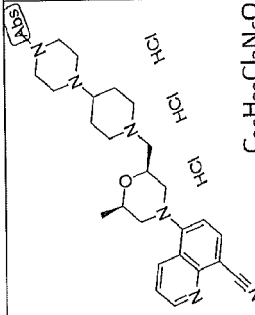
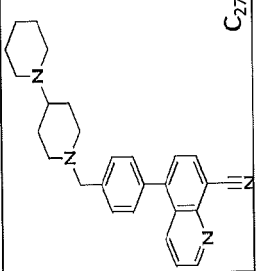
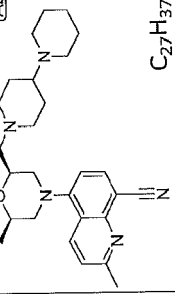
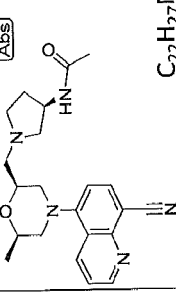
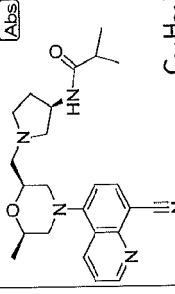
|           |                                                                                                                  |         |        |        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------|---------|--------|--------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| ER-890223 | <br><chem>C26H39Cl3N6O</chem> | 558.0   | 0.0010 | 0.083  | 5-((2R,6S)-2-methyl-6-((4-(4-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile trihydrochloride | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) δ ppm 1.12 - 1.28 (m, 3 H) 2.09 - 2.43 (m, 4 H) 2.60 - 2.77 (m, 2 H) 2.83 (br. s., 3 H) 2.97 - 3.21 (m, 4 H) 3.23 - 3.53 (m, 8 H) 3.67 (br. s., 4 H) 3.74 - 4.01 (m, 6 H) 4.02 - 4.17 (m, 1 H) 4.48 (t, J=9.08 Hz, 1 H) 7.27 (m, J=8.12 Hz, 1 H) 7.70 (dd, J=8.65, 4.17 Hz, 1 H) 8.29 (m, J=8.12 Hz, 1 H) 8.62 (dd, J=8.55, 1.50 Hz, 1 H) 9.07 (dd, J=4.27, 1.50 Hz, 1 H) 10.70 (br. s., 1 H) | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>36</sub> N <sub>6</sub> O (M+H+) 449.30, found: 449.41              |
| ER-890244 | <br><chem>C27H30N4</chem>     | 410.562 | 0.0225 | 0.0465 | 5-((4-((1,4'-bipiperidin)-1'-ylmethyl)phenyl)morpholino)quinoline-8-carbonitrile                              | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.50 (2 H), 1.65 (6 H), 1.91 (2 H), 2.08 (2 H), 2.44 (1 H), 2.67 (4 H), 3.04 (2 H), 3.61 (2 H), 7.45 (2 H), 7.52 (2 H), 8.26 (1 H), 8.37 (1 H), 9.01 (1 H).                                                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>30</sub> N <sub>4</sub> (M+H+) 411.25, found: 411.35                |
| ER-890250 | <br><chem>C27H30N4</chem>     | 447.6   | 2.0590 | 0.841  | 5-((2S,6R)-2-((1,4'-bipiperidin)-1'-ylmethyl)-6-methylmorpholino)-2-methylquinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, DMSO-d <sub>6</sub> ) δ ppm 1.14 (3 H), 1.35 (4 H), 1.44 (4 H), 1.63 (2 H), 1.94 (3 H), 2.39 (6 H), 2.48 (1 H), 2.55 (1 H), 2.58 (1 H), 2.61 (1 H), 2.71 (3 H), 2.84 (1 H), 3.00 (1 H), 3.98 (2 H), 7.13 (1 H), 7.54 (1 H), 8.17 (1 H), 8.42 (1 H).                                                                                                                                                                 | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>37</sub> N <sub>5</sub> O (M+H+) 448.30, found: 448.4               |
| ER-890252 | <br><chem>C27H37N5O</chem>   | 393.5   | 0.0330 | > 10.0 | N-((R)-1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)acetamide           | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.25 (3 H), 1.80 (1 H), 1.94 (2 H), 1.99 (1 H), 2.35 (1 H), 2.65 (3 H), 2.78 (1 H), 2.84 (1 H), 2.92 (1 H), 3.13 (1 H), 3.27 (2 H), 3.37 (1 H), 4.04 (1 H), 4.22 (1 H), 4.59 (1 H), 6.84 (1 H), 7.05 (1 H), 7.50 (1 H), 7.99 (1 H), 8.43 (1 H), 9.03 (1 H).                                                                                                                       | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 394.22, found: 394.22 |
| ER-890253 | <br><chem>C24H31N5O2</chem> | 421.5   | 0.1610 | > 10.0 | N-((R)-1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)isobutyramide       | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.09 (6 H), 1.24 (3 H), 1.60 (1 H), 2.28 (2 H), 2.38 (1 H), 2.66 (6 H), 3.01 (1 H), 3.27 (1 H), 3.37 (1 H), 4.03 (2 H), 4.42 (1 H), 6.02 (1 H), 7.05 (1 H), 7.50 (1 H), 7.98 (1 H), 8.43 (1 H), 9.02 (1 H).                                                                                                                                                                       | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 422.25, found: 422.31 |

FIG. 6TT

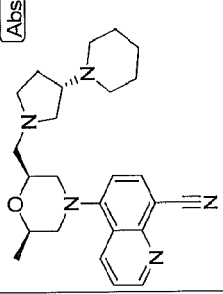
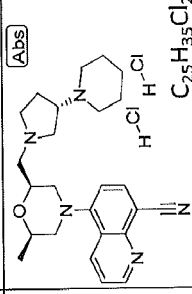
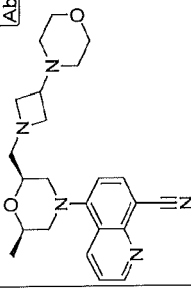
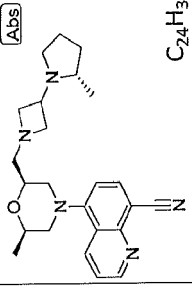
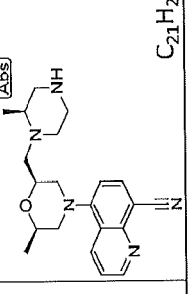
|           |                                                                                                                                                         |       |        |                  |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-890311 | <br>C <sub>25</sub> H <sub>33</sub> N <sub>5</sub> O                 | 419.6 | 0.1409 | > 10.0?<br>4.736 | 5-((2R,6S)-2-methyl-6-(((S)-3-(piperidin-1-yl)pyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.21 - 1.49 (m, 3 H) 1.66 (br. s., 2 H) 1.75 - 1.89 (m, 2 H) 1.94 (br. s., 1 H) 2.01 - 2.25 (m, 1 H) 2.36 (s, 3 H) 2.55 - 2.78 (m, 2 H) 2.83 - 2.98 (m, 2 H) 3.06 (s, 1 H) 3.19 (d, <i>J</i> =6.45 Hz, 3 H) 3.25 - 3.35 (m, 2 H) 3.37 (s, 1 H) 3.39 (s, 1 H) 3.59 - 3.88 (m, 2 H) 3.94 - 4.15 (m, 1 H) 4.18 (br. s., 1 H) 4.81 - 5.07 (m, 4 H) 7.24 (t, <i>J</i> =7.91 Hz, 2 H) 7.56 - 7.80 (m, 2 H) 8.08 (s, 1 H) 8.15 (d, <i>J</i> =7.91 Hz, 1 H) 8.42 - 8.67 (m, 1 H) 8.83 - 9.10 (m, 1 H) |
| ER-890311 | <br>C <sub>25</sub> H <sub>35</sub> Cl <sub>2</sub> N <sub>5</sub> O | 492.6 | 0.0218 | 6.541            | 5-((2R,6S)-2-methyl-6-(((S)-3-(piperidin-1-yl)pyrrolidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile dihydrochloride |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ER-890342 | <br>C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>    | 407.5 | 0.0710 | > 2.0            | 5-((2R,6S)-2-methyl-6-((3-morpholinoazetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                             | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.25 (d, <i>J</i> =6.15 Hz, 4 H) 2.32 (s, 3 H) 2.38 (br. s., 4 H) 2.62 - 2.74 (m, 2 H) 3.29 - 3.39 (m, 5 H) 3.65 - 3.70 (m, 5 H) 3.99 - 4.09 (m, 3 H) 4.20 - 4.27 (m, 2 H) 4.81 - 4.85 (m, 7 H) 7.16 - 7.24 (m, 2 H) 7.59 - 7.63 (m, 1 H) 7.67 (d, <i>J</i> =8.20 Hz, 1 H) 8.12 (d, <i>J</i> =8.20 Hz, 1 H) 8.19 (br. s., 1 H) 8.61 (dd, <i>J</i> =8.50, 1.47 Hz, 1 H) 8.94 - 8.96 (m, 1 H)                                                                                                   |
| ER-890343 | <br>C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O                | 405.5 | 0.0082 | 5.241            | 5-((2R,6S)-2-methyl-6-((3-((S)-2-methylpyrrolidin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ER-890344 | <br>C <sub>21</sub> H <sub>27</sub> N <sub>5</sub> O               | 365.5 | 0.0180 | > 2.0            | 5-((2R,6S)-2-methyl-6-(((S)-2-methylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

FIG. 6UU

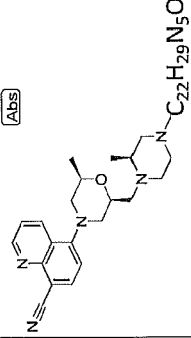
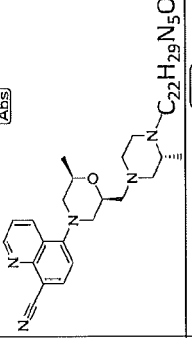
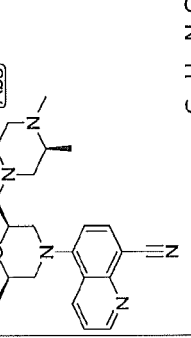
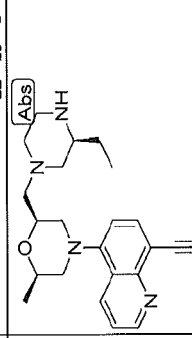
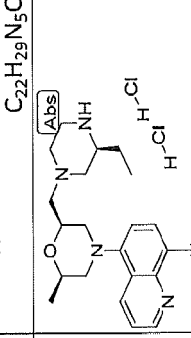
|           |                                                                                       |       |        |        |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-890345 |    | 379.5 | 0.0180 | > 2.0  | 5-((2S,6R)-2-(((S)-3,4-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile            |                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ER-890346 |    | 379.5 | 0.0240 | > 2.0  | 5-((2S,6R)-2-(((R)-3,4-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile            |                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ER-890831 |    | 379.5 | 0.0051 | > 10.0 | 5-((2S,6R)-2-(((S)-3,4-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.05 (3 H, d) 1.17 - 1.22 (3 H, m) 1.89 - 1.98 (1 H, m) 2.27 (4 H, s) 2.30 - 2.37 (2 H, m) 2.39 - 2.46 (1 H, m) 2.46 - 2.67 (3 H, m) 2.72 - 2.81 (1 H, m) 2.82 - 2.97 (2 H, m) 3.26 - 3.40 (2 H, m) 3.92 - 4.05 (1 H, m) 4.07 - 4.18 (1 H, m) 7.09 - 7.19 (1 H, m) 7.50 - 7.59 (1 H, m) 7.99 - 8.08 (1 H, m) 8.49 - 8.61 (1 H, m) 8.84 - 8.99 (1 H, m) |
| ER-890963 |   | 379.5 | 0.0005 | > 10.0 | 5-((2S,6R)-2-(((S)-3-ethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.96 (3 H, t) 1.20 (3 H, d) 1.52 - 1.64 (2 H, m) 2.10 - 2.23 (1 H, m) 2.29 - 2.43 (1 H, m) 2.52 - 2.63 (3 H, m) 2.66 - 2.74 (1 H, m) 3.00 - 3.18 (4 H, m) 3.29 - 3.42 (2 H, m) 3.98 - 4.07 (1 H, m) 4.08 - 4.20 (1 H, m) 7.15 - 7.23 (1 H, m) 7.54 - 7.64 (1 H, m) 8.07 - 8.15 (1 H, m) 8.43 - 8.53 (1 H, m) 8.57 - 8.66 (1 H, m) 8.88 - 8.99 (1 H, m) |
| ER-890963 |  | 452.4 | 0.0085 | > 10.0 | 5-((2S,6R)-2-(((S)-3-ethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile dihydrochloride |                                                                                                                                                                                                                                                                                                                                                                                                                     |

FIG. 6VV

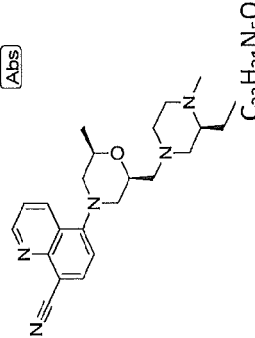
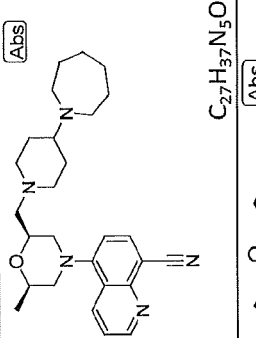
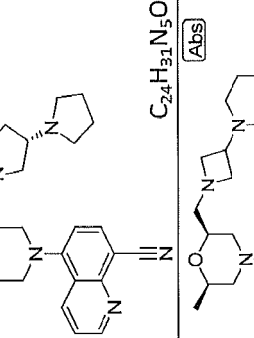
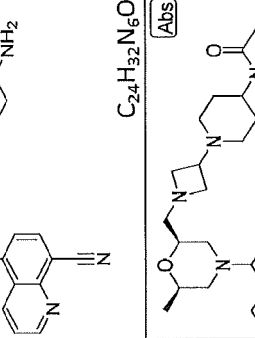
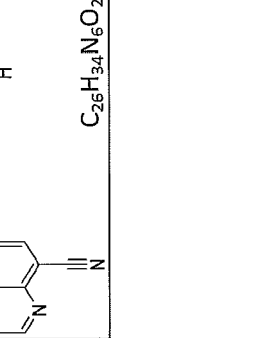
|           |                                                                                       |       |        |        |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------|-------|--------|--------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-890964 |    | 393.5 | 0.0009 | > 10.0 | 5-((2S,6R)-2-((S)-3-ethyl-4-methylpiperazin-1-yl)methyl)-6-methylmorpholinoquinoline-8-carbonitrile            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.86 (t, J=7.62 Hz, 2 H) 1.18 - 1.40 (m, 4 H) 1.48 - 1.76 (m, 2 H) 1.82 - 2.10 (m, 2 H) 2.15 (s, 1 H) 2.19 - 2.33 (m, 4 H) 2.44 (dd, J=12.89, 6.45 Hz, 1 H) 2.54 (dd, J=12.89, 5.57 Hz, 1 H) 2.59 - 2.79 (m, 3 H) 2.83 - 3.06 (m, 1 H) 3.26 (dt, J=11.72, 2.05 Hz, 1 H) 3.34 - 3.56 (m, 2 H) 3.89 - 4.13 (m, 2 H) 7.06 (d, J=7.91 Hz, 1 H) 7.24 (s, 1 H) 7.48 (dd, J=8.50, 4.39 Hz, 1 H) 8.02 (d, J=8.20 Hz, 1 H) 8.32 - 8.49 (m, 1 H) 9.05 (dd, J=4.10, 1.76 Hz, 1 H) |
| ER-891084 |    | 447.6 | 0.0034 | 0.0362 | 5-((2S,6R)-2-((4-azepan-1-yl)piperidin-1-yl)methyl)-6-methylmorpholinoquinoline-8-carbonitrile                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.16 - 1.31 (m, 3 H) 1.71 (br. s., 4 H) 1.74 - 1.85 (m, 2 H) 1.88 (br. s., 3 H) 2.02 (d, J=9.38 Hz, 2 H) 2.10 - 2.30 (m, 2 H) 2.35 (s, 1 H) 2.45 - 2.74 (m, 4 H) 3.12 - 3.41 (m, 9 H) 3.99 - 4.23 (m, 2 H) 4.87 (s, 4 H) 7.17 - 7.42 (m, 2 H) 7.57 - 7.84 (m, 2 H) 8.13 (d, J=7.91 Hz, 1 H) 8.52 (s, 1 H) 8.57 - 8.79 (m, 2 H) 8.82 - 9.07 (m, 2 H)                                                                                                        |
| ER-891090 |   | 405.5 | 0.0081 | 1.262  | 5-((2S,6R)-2-((S)-1',3'-bipyrrolidin-1-ylmethyl)-6-methylmorpholinoquinoline-8-carbonitrile                    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.16 - 1.31 (m, 3 H) 1.71 (br. s., 4 H) 1.74 - 1.85 (m, 2 H) 1.88 (br. s., 3 H) 2.02 (d, J=9.38 Hz, 2 H) 2.10 - 2.30 (m, 2 H) 2.35 (s, 1 H) 2.45 - 2.74 (m, 4 H) 3.12 - 3.41 (m, 9 H) 3.99 - 4.23 (m, 2 H) 4.87 (s, 4 H) 7.17 - 7.42 (m, 2 H) 7.57 - 7.84 (m, 2 H) 8.13 (d, J=7.91 Hz, 1 H) 8.52 (s, 1 H) 8.57 - 8.79 (m, 2 H) 8.82 - 9.07 (m, 2 H)                                                                                                        |
| ER-892253 |  | 420.6 | 0.0664 | > 10.0 | 5-((2S,6R)-2-((3-(4-aminopiperidin-1-yl)azetidin-1-yl)methyl)-6-methylmorpholinoquinoline-8-carbonitrile       | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (d, J=6.45 Hz, 2 H) 1.57 - 1.77 (m, 2 H) 2.03 (br. s., 3 H) 2.59 - 2.82 (m, 2 H) 2.92 (d, J=9.96 Hz, 2 H) 3.12 (d, J=12.01 Hz, 1 H) 3.25 - 3.49 (m, 5 H) 4.00 - 4.17 (m, 2 H) 4.17 - 4.30 (m, 1 H) 4.34 (d, J=7.03 Hz, 2 H) 7.25 (d, J=7.91 Hz, 1 H) 7.58 - 7.84 (m, 1 H) 8.06 (s, 1 H) 8.15 (d, J=8.20 Hz, 1 H) 8.63 (dd, J=8.50, 1.76 Hz, 1 H) 8.95 - 9.07 (m, 1 H)                                                                                 |
| ER-892254 |  | 462.6 | 0.0696 | > 10.0 | N-(1-(1-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)piperidin-4-yl)acetamide | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.24 (d, J=6.15 Hz, 2 H) 1.35 - 1.58 (m, 2 H) 1.89 (s, 3 H) 1.95 - 2.19 (m, 2 H) 2.51 - 2.76 (m, 2 H) 2.82 (s, 1 H) 2.79 (s, 1 H) 3.22 (br. s., 1 H) 3.29 - 3.48 (m, 3 H) 3.50 - 3.77 (m, 1 H) 3.80 - 4.01 (m, 2 H) 4.01 - 4.12 (m, 1 H) 4.13 - 4.36 (m, 2 H) 7.23 (d, J=7.91 Hz, 1 H) 7.56 - 7.76 (m, 1 H) 8.12 (d, J=8.20 Hz, 1 H) 8.26 (br. s., 1 H) 8.61 (dd, J=8.50, 1.76 Hz, 1 H) 8.95 (dd, J=4.10, 1.47 Hz, 1 H)                                    |

FIG. 6WW

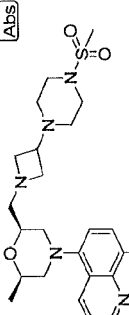
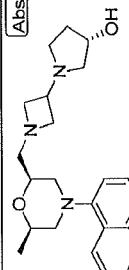
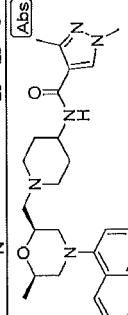
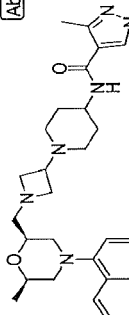
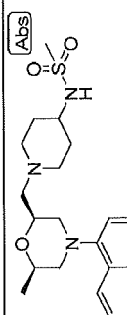
|           |                                                                                                                                                          |       |        |        |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-892256 | <br>C <sub>24</sub> H <sub>32</sub> N <sub>6</sub> O <sub>3</sub> S   | 484.6 | 0.3116 | > 10.0 | 5-(2R,6S)-2-methyl-6-((3-(4-(methylsulfonyl)piperazin-1-yl)azetidin-1-yl)methyl)morpholino)quinoline-8-carbonitrile                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ER-893881 | <br>C <sub>24</sub> H <sub>32</sub> N <sub>6</sub> O <sub>3</sub> S   | 407.5 | 0.0055 | > 10.0 | 5-(2S,6R)-2-((3-((S)-3-hydroxypyrrolidin-1-yl)azetidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ER-893926 | <br>C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>     | 487.6 | 0.0123 | 5.9    | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)-1,3-dimethyl-1H-pyrazole-4-carboxamide                  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.27 (d, J=6.15 Hz, 3 H) 1.76 - 2.01 (m, 2 H) 2.05 - 2.28 (m, 2 H) 2.36 (s, 3 H) 2.51 - 2.77 (m, 2 H) 3.02 - 3.25 (m, 4 H) 3.29 - 3.47 (m, 2 H) 3.50 - 3.70 (m, 2 H) 3.75 (s, 1 H) 3.80 (s, 2 H) 3.94 - 4.17 (m, 2 H) 4.41 (br. s., 1 H) 7.23 (d, J=7.91 Hz, 1 H) 7.55 - 7.72 (m, 1 H) 7.94 (s, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.24 (s, 2 H) 8.49 - 8.66 (m, 1 H) 8.79 - 9.07 (m, 1 H)                                                                                    |
| ER-893927 | <br>C <sub>27</sub> H <sub>33</sub> N <sub>7</sub> O <sub>2</sub>     | 542.7 | 0.0910 | >10.0  | N-(1-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)piperidin-4-yl)-1,3-dimethyl-1H-pyrazole-4-carboxamide | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (d, J=6.15 Hz, 2 H) 1.47 - 1.66 (m, 2 H) 1.96 (s, 1 H) 1.93 (s, 1 H) 2.00 - 2.21 (m, 2 H) 2.35 (s, 3 H) 2.57 - 2.79 (m, 2 H) 2.88 (s, 1 H) 2.85 (s, 1 H) 3.29 - 3.57 (m, 3 H) 3.78 (s, 3 H) 3.86 (s, 1 H) 2 H) 4.08 (d, J=5.57 Hz, 1 H) 4.21 (br. s., 3 H) - 4.04 (m, 2 H) 7.91 Hz, 1 H) 7.42 - 7.69 (m, 2 H) 7.76 (d, J=7.62 Hz, 1 H) 7.90 (s, 1 H) 8.13 (d, J=8.20 Hz, 1 H) 8.24 (br. s., 2 H) 8.61 (d, J=8.79 Hz, 2 H) 8.91 - 9.11 (m, 1 H)                      |
| ER-893948 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O <sub>3</sub> S | 443.6 | 0.0995 | >10.0  | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)methanesulfonamide                                       | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (d, J=6.15 Hz, 3 H) 1.38 (br. s., 1 H) 1.78 (s, 1 H) 1.74 (s, 1 H) 1.83 - 1.96 (m, 1 H) 2.04 (br. s., 1 H) 2.10 (br. s., 2 H) 2.52 - 2.76 (m, 2 H) 2.77 - 2.92 (m, 2 H) 2.92 - 3.06 (m, 3 H) 3.12 (s, 1 H) 3.29 - 3.55 (m, 3 H) 4.09 (br. s., 1 H) 4.28 (br. s., 2 H) 4.74 (br. s., 1 H) 4.85 (s, 6 H) 5.46 (s, 1 H) 7.23 (d, J=7.91 Hz, 1 H) 7.61 (dd, J=8.50, 4.10 Hz, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.34 (br. s., 2 H) 8.47 - 8.73 (m, 1 H) 8.80 - 9.00 (m, 1 H) |

FIG. 6XX

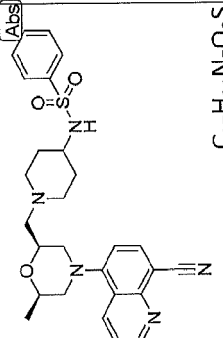
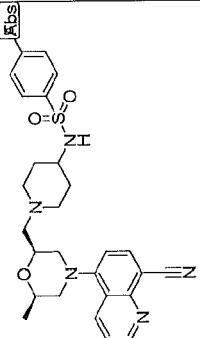
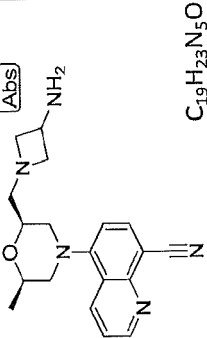
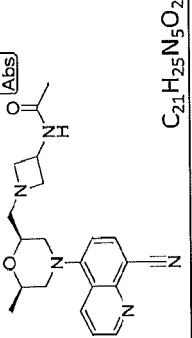
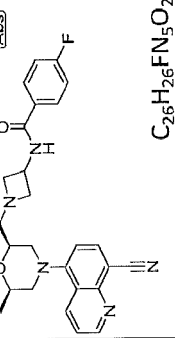
|           |                                                                                       |       |        |       |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-894149 |    | 505.6 | 0.1130 | 9.9   | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)benzenesulfonamide          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.23 (d, J=6.15 Hz, 3 H) 1.58 - 1.85 (m, 2 H) 1.85 - 1.98 (m, 2 H) 2.04 (s, 1 H) 2.54 - 2.72 (m, 2 H) 2.88 (s, 1 H) 3.02 (s, 1 H) 2.98 (s, 1 H) 3.05 - 3.25 (m, 2 H) 3.29 - 3.52 (m, 4 H) 3.96 - 4.16 (m, 1 H) 4.31 (br. s., 1 H) 7.21 (d, J=7.91 Hz, 1 H) 7.28 - 7.42 (m, 1 H) 7.51 - 7.69 (m, 3 H) 7.70 - 7.82 (m, 1 H) 7.82 - 7.98 (m, 1 H) 8.11 (d, J=8.20 Hz, 1 H) 8.23 (br. s., 1 H) 8.59 (dd, J=8.50, 1.76 Hz, 1 H) 8.89 - 9.11 (m, 1 H) |
| ER-894150 |    | 523.6 | 0.1275 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)-4-fluorobenzenesulfonamide | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.26 (d, J=6.45 Hz, 2 H) 1.64 - 1.90 (m, 2 H) 1.90 - 2.11 (m, 2 H) 2.54 - 2.74 (m, 2 H) 2.90 (br. s., 1 H) 2.99 - 3.24 (m, 3 H) 3.25 - 3.53 (m, 4 H) 3.96 - 4.22 (m, 1 H) 4.24 - 4.42 (m, 1 H) 7.06 - 7.17 (m, 1 H) 7.23 (d, J=7.91 Hz, 1 H) 7.26 - 7.45 (m, 1 H) 7.61 (dd, J=8.50, 4.39 Hz, 1 H) 7.73 - 7.88 (m, 1 H) 7.89 - 8.03 (m, 1 H) 8.13 (d, J=7.91 Hz, 1 H) 8.23 (br. s., 1 H) 8.62 (dd, J=8.79, 1.47 Hz, 1 H) 8.93 - 9.11 (m, 1 H)    |
| ER-894151 |    | 337.4 | 0.0052 | 11.46 | 5-((2S,6R)-2-((3-aminoazetidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile                          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.08 - 1.30 (m, 4 H) 2.56 - 2.82 (m, 3 H) 2.83 - 3.00 (m, 2 H) 3.00 - 3.19 (m, 1 H) 3.21 - 3.43 (m, 5 H) 3.44 - 3.59 (m, 2 H) 3.59 - 3.78 (m, 1 H) 3.79 - 3.99 (m, 2 H) 4.00 - 4.11 (m, 2 H) 4.14 (br. s., 1 H) 4.52 - 4.67 (m, 1 H) 4.75 - 4.90 (m, 5 H) 7.17 - 7.31 (m, 1 H) 7.44 - 7.68 (m, 2 H) 8.07 (s, 1 H) 8.15 (d, J=8.20 Hz, 1 H) 8.41 (s, 2 H) 8.51 - 8.80 (m, 2 H) 8.81 - 9.04 (m, 1 H)                                              |
| ER-894152 |   | 379.5 | 0.0740 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)acetamide                    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.03 - 1.30 (m, 3 H) 1.94 (s, 2 H) 2.57 - 2.79 (m, 2 H) 3.00 - 3.25 (m, 2 H) 3.29 - 3.57 (m, 2 H) 3.79 (br. s., 2 H) 4.05 (br. s., 1 H) 4.17 (d, J=8.79 Hz, 2 H) 4.49 (s, 1 H) 4.47 (s, 1 H) 7.22 (d, J=8.20 Hz, 1 H) 7.55 - 7.80 (m, 1 H) 8.12 (d, J=7.91 Hz, 1 H) 8.39 (br. s., 1 H) 8.60 (d, J=8.50 Hz, 2 H) 8.95 (d, J=2.64 Hz, 1 H)                                                                                                        |
| ER-894153 |  | 459.5 | 0.1210 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)-4-fluorobenzenesulfonamide  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

FIG. 6YY

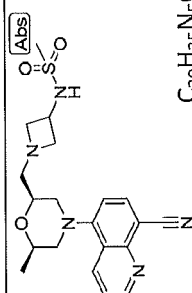
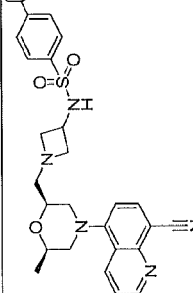
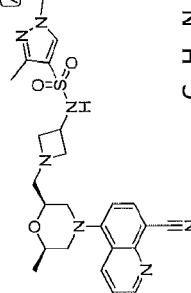
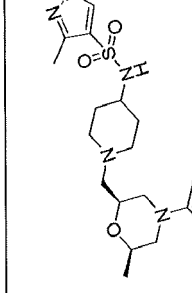
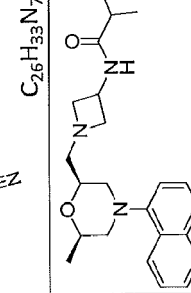
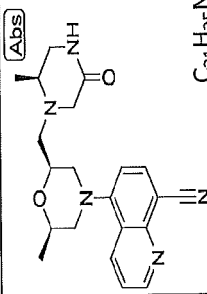
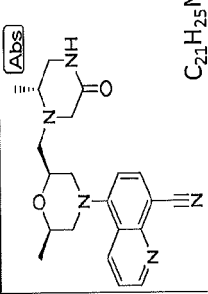
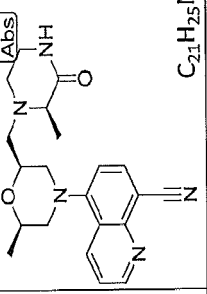
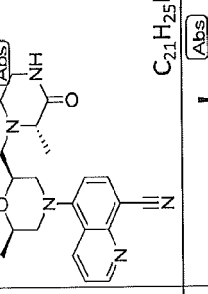
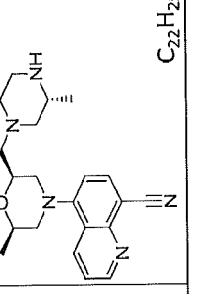
|           |                                                                                                                  |       |        |       |                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|------------------------------------------------------------------------------------------------------------------|-------|--------|-------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-894154 | <br><chem>C20H25N5O3S</chem>  | 415.5 | 0.1710 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)methanesulfonamide                       | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.27 (d, <i>J</i> =6.15 Hz, 3 H) 2.52 - 2.78 (m, 2 H) 2.96 (s, 2 H) 3.01 - 3.21 (m, 2 H) 3.23 - 3.42 (m, 4 H) 3.55 - 3.77 (m, 2 H) 3.91 - 4.17 (m, 2 H) 4.17 - 4.40 (m, 3 H) 4.88 (s, 3 H) 7.25 (d, <i>J</i> =7.91 Hz, 1 H) 7.57 - 7.84 (m, 1 H) 8.15 (d, <i>J</i> =7.91 Hz, 1 H) 8.30 (br. s., 1 H) 8.64 (dd, <i>J</i> =8.50, 1.76 Hz, 1 H) 8.93 - 9.17 (m, 1 H)                                                                                                                                                                   |
| ER-894155 | <br><chem>C20H25N5O3S</chem>  | 495.6 | 0.2820 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)-4-fluorobenzenesulfonamide              | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.09 - 1.33 (m, 2 H) 1.44 (s, 1 H) 2.02 (s, 1 H) 2.54 - 2.76 (m, 1 H) 2.95 - 3.23 (m, 1 H) 3.23 - 3.50 (m, 2 H) 3.62 - 3.80 (m, 1 H) 3.97 - 4.24 (m, 3 H) 6.94 - 7.16 (m, 1 H) 7.20 (d, <i>J</i> =8.20 Hz, 1 H) 7.26 - 7.46 (m, 1 H) 7.60 (dd, <i>J</i> =8.50, 4.39 Hz, 1 H) 7.73 - 8.01 (m, 1 H) 8.11 (d, <i>J</i> =7.91 Hz, 1 H) 8.23 (br. s., 1 H) 8.50 - 8.65 (m, 1 H) 8.95 (dd, <i>J</i> =4.39, 1.76 Hz, 1 H)                                                                                                                  |
| ER-894159 | <br><chem>C25H26FN5O3S</chem> | 495.6 | 0.1780 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)-1,3-dimethyl-1H-pyrazole-4-sulfonamide  | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.20 (d, <i>J</i> =6.45 Hz, 3 H) 2.32 (s, 3 H) 2.45 (s, 1 H) 2.52 - 2.71 (m, 2 H) 2.93 - 3.14 (m, 2 H) 3.29 - 3.46 (m, 2 H) 3.60 (br. s., 2 H) 3.69 - 3.89 (m, 3 H) 3.91 - 4.12 (m, 4 H) 7.20 (d, <i>J</i> =8.20 Hz, 1 H) 7.46 - 7.69 (m, 1 H) 7.98 (s, 1 H) 8.10 (d, <i>J</i> =8.20 Hz, 1 H) 8.26 (br. s., 2 H) 8.43 - 8.63 (m, 1 H) 8.77 - 8.97 (m, 1 H)                                                                                                                                                                          |
| ER-894160 | <br><chem>C24H29N7O3S</chem> | 523.7 | 0.1990 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)piperidin-4-yl)-1,3-dimethyl-1H-pyrazole-4-sulfonamide | <sup>1</sup> H NMR (400 MHz, METHANOL- <i>d</i> <sub>4</sub> ) δ ppm 1.14 - 1.41 (m, 4 H) 1.73 - 1.95 (m, 2 H) 1.95 - 2.17 (m, 3 H) 2.20 - 2.37 (m, 4 H) 2.44 (d, <i>J</i> =18.75 Hz, 1 H) 2.59 - 2.79 (m, 3 H) 2.97 (s, 1 H) 3.06 - 3.25 (m, 4 H) 3.29 - 3.44 (m, 3 H) 3.50 (br. s., 2 H) 3.57 - 3.75 (m, 3 H) 3.77 - 3.88 (m, 3 H) 3.94 (s, 1 H) 3.98 - 4.23 (m, 2 H) 4.24 - 4.45 (m, 2 H) 7.22 (d, <i>J</i> =7.91 Hz, 1 H) 7.60 (dd, <i>J</i> =8.50, 4.39 Hz, 2 H) 7.68 (s, 1 H) 7.83 - 8.02 (m, 1 H) 8.08 - 8.25 (m, 2 H) 8.37 (s, 1 H) 8.49 - 8.78 (m, 2 H) 8.95 (dd, <i>J</i> =4.39, 1.76 Hz, 1 H) |
| ER-894206 | <br><chem>C23H29N5O2</chem> | 407.5 | 0.0197 | >10.0 | N-(1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)isobutyramide                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

FIG. 6ZZ

|           |                                                                                       |       |        |       |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------------------------------------------------------|-------|--------|-------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-894472 |    | 379.5 | 0.1210 | >10.0 | 5-((2R,6S)-2-methyl-6-(((S)-2-methyl-5-oxopiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                      |
| ER-894473 |    | 379.5 | 0.4060 | >10.0 | 5-((2R,6S)-2-methyl-6-(((R)-2-methyl-5-oxopiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile |                                                                                                                                                                                                                                                                                                                                                      |
| ER-894483 |    | 379.5 | 0.1350 | >10.0 | 5-((2R,6S)-2-methyl-6-(((R)-2-methyl-3-oxopiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (CD3OD) δ ppm 8.93 (dd, 1H), 8.61 (dd, 1H), 8.10 (d, 1H), 7.60 (dd, 1H), 7.20 (d, 1H), 4.05 (m, 2H), 3.39-3.07 (overlapping multiplets, 6H), 2.28-2.57 (overlapping multiplets 5H), 1.32 (d, 3H), 1.21 (d, 3H)                                                                                                                    |
| ER-894484 |   | 379.5 | 0.1470 | >10.0 | 5-((2R,6S)-2-methyl-6-(((S)-2-methyl-3-oxopiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (CD3OD) δ ppm 8.92 (dd, 1H), 8.59 (dd, 1H), 8.10 (d, 1H), 7.59 (dd, 1H), 7.20 (d, 1H), 4.13-4.01 (m, 2H), 3.45-3.13 (overlapping m, 6H), 2.28-2.57 (overlapping multiplets 5H), 1.30 (d, 3H), 1.21 (d, 3H)                                                                                                                        |
| ER-894504 |  | 393.5 | 0.0170 | >10.0 | 5-((2R,6S)-2-methyl-6-((2,4,5-trimethylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (CD3OD) δ ppm 8.92 (dd, 1H), 8.58 (m, 1H), 8.07 (d, 1H), 7.58 (m, 1H), 7.17 (m, 1H), 4.11 (m, 1H), 4.02 (m, 1H), 3.40 (m, 1H), 3.31 (m, 1H), 3.27 (m, 1H), 3.00-2.77 (overlapping multiplets 2H), 2.72-2.54 (overlapping multiplets, 2H), 2.44-2.32 (m, 1H), 2.24 (d, 3H), 2.20 (m, 2H), 2.04 (m, 2H), 1.20 (m, 3H), 1.03 (m, 6H) |

LCMS (ESI+) calcd.  
for: C21H25N5O2  
(M+H+): 380.2,  
found 380.2LCMS (ESI+) calcd.  
for: C21H25N5O2  
(M+H+): 380.2,  
found 380.2LCMS (ESI+) calcd.  
for: C23H31N5O  
(M+H+): 394.3,  
found 394.3

FIG. 6AAA

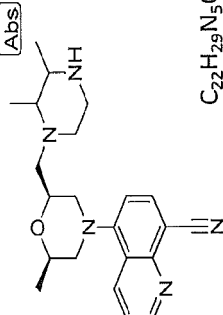
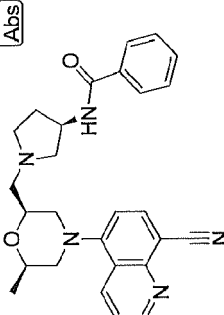
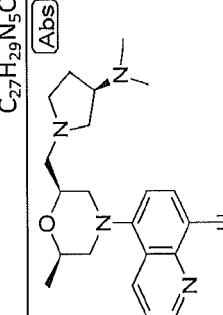
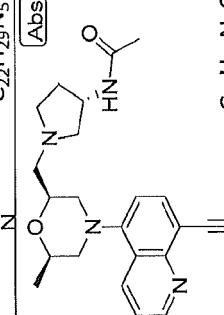
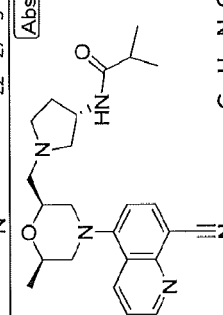
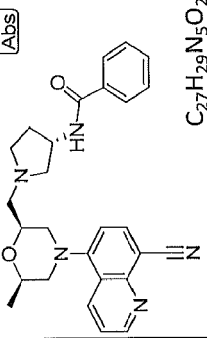
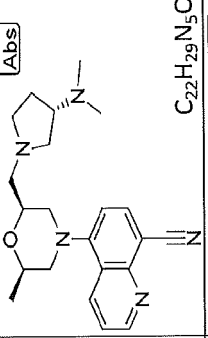
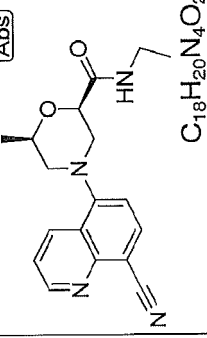
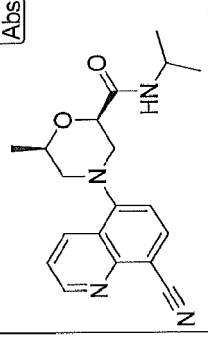
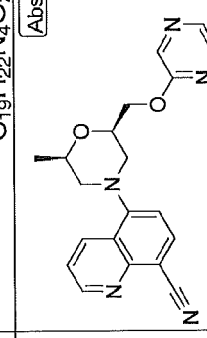
|           |                                                                                                                                                        |       |        |       |                                                                                                         |                                                                                                                                                                                                                                                                                                      |                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-894505 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O                | 393.5 | 0.0040 | >10.0 | 5-((2R,6S)-2-methyl-6-((2,3,4-trimethylpiperazin-1-yl)methyl)morpholino)quinoline-8-carbonitrile        | <sup>1</sup> H NMR (CD <sub>3</sub> OD) δ ppm 8.93 (dd, 1H), 8.59 (m, 1H), 8.10 (d, 1H), 7.59 (m, 1H), 7.20 (dd, 1H), 4.13-4.01 (m, 2H), 3.45-3.31 (overlapping m, 4H), 3.04-2.572.35 (overlapping multiplets 4H), 2.26 (s, 3H), 2.20 (m, 1H), 1.80 (m, 1H), 1.20 (m, 3H), 1.21 (m, 6H)              | LCMS (ESI+) calcd. for: C <sub>23</sub> H <sub>31</sub> N <sub>5</sub> O (M+H+): 394.3, found 394.4               |
| ER-894544 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>   | 455.6 | 0.0430 | 6.2   | N-((R)-1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)benzamide     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.26 (3H), 2.37 (2H), 2.70 (6H), 3.07 (1H), 3.28 (1H), 3.39 (1H), 3.46 (1H), 4.04 (2H), 4.66 (1H), 6.70 (1H), 7.07 (1H), 7.39 (2H), 7.49 (2H), 7.75 (2H), 8.04 (1H), 8.45 (1H), 9.03 (1H)                                             | LCMS (ESI+) calcd. for: C <sub>27</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 456.24, found 456.39 |
| ER-894545 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O                | 379.5 | 0.0050 | >10.0 | 5-((2S,6R)-2-(((R)-3-(dimethylamino)pyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (3H), 1.91 (1H), 2.18 (1H), 2.57 (6H), 2.65 (1H), 2.75 (2H), 2.85 (1H), 2.97 (1H), 3.35 (2H), 3.4 (3H), 4.11 (2H), 7.23 (1H), 7.63 (1H), 8.14 (1H), 8.52 (1H), 8.64 (1H), 8.97 (1H)                                                | LCMS (ESI+) calcd. for: C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O (M+H+) 380.24, found 380.25              |
| ER-894546 | <br>C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub>  | 393.5 | 0.0222 | >10.0 | N-((S)-1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)acetamide     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.25 (3H), 1.80 (1H), 1.94 (2H), 1.99 (1H), 2.35 (1H), 2.65 (3H), 2.78 (1H), 2.84 (1H), 2.92 (1H), 3.13 (1H), 3.27 (2H), 3.37 (1H), 4.04 (1H), 4.22 (1H), 4.59 (1H), 6.84 (1H), 7.05 (1H), 7.50 (1H), 7.99 (1H), 8.43 (1H), 9.03 (1H) | LCMS (ESI+) calcd. for: C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 394.22, found 394.27 |
| ER-894547 | <br>C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O <sub>2</sub> | 421.5 | 0.0272 | >10.0 | N-((S)-1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)isobutyramide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) δ ppm 1.09 (6H), 1.24 (3H), 1.60 (1H), 2.28 (2H), 2.38 (1H), 2.66 (6H), 3.01 (1H), 3.27 (1H), 3.37 (1H), 4.03 (2H), 4.42 (1H), 6.02 (1H), 7.05 (1H), 7.50 (1H), 7.98 (1H), 8.43 (1H), 9.02 (1H)                                             | LCMS (ESI+) calcd. for: C <sub>24</sub> H <sub>31</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 422.25, found 422.28 |

FIG. 6BBB

|           |                                                                                                                                                        |        |        |        |                                                                                                         |                                                                                                                                                                                                                                                                         |                                                                                                                                 |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| ER-894548 | <br>C <sub>27</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>   | 455.6  | 0.0213 | 4.33   | N-((S)-1-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)pyrrolidin-3-yl)benzamide      | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.26 (3 H), 2.37 (2 H), 2.70 (6 H), 3.07 (1 H), 3.28 (1 H), 3.39 (1 H), 3.46 (1 H), 4.04 (2 H), 4.66 (1 H), 6.70 (1 H), 7.07 (1 H), 7.39 (2 H), 7.49 (2 H), 7.75 (2 H), 8.04 (1 H), 8.45 (1 H), 9.03 (1 H).            | LCMS (ESI+) calcd for C <sub>27</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 456.24, found 456.18    |
| ER-894549 | <br>C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O                | 379.5  | 0.0044 | 3.9    | 5-((2S,6R)-2-(((S)-3-(dimethylamino)pyrrolidin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.25 (3 H), 1.91 (1 H), 2.18 (1 H), 2.57 (6 H), 2.65 (1 H), 2.75 (2 H), 2.85 (1 H), 2.97 (1 H), 3.35 (2 H), 3.4 (3 H), 4.11 (2 H), 7.23 (1 H), 7.63 (1 H), 8.14 (1 H), 8.52 (1 H), 8.64 (1 H), 8.97 (1 H). | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O (M+H <sup>+</sup> ) 380.24, found 380.26                 |
| ER-894550 | <br>C <sub>18</sub> H <sub>20</sub> N <sub>4</sub> O <sub>2</sub>   | 324.38 | 0.0347 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-ethyl-6-methylmorpholine-2-carboxamide                               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.10 (2 H), 1.29 (3 H), 2.71 (2 H), 3.23 (3 H), 3.35 (1 H), 3.67 (1 H), 4.11 (1 H), 4.42 (1 H), 7.23 (1 H), 7.62 (1 H), 8.12 (1 H), 8.64 (1 H), 8.95 (1 H).                                                | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>20</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 325.16 ; Found: 325.27 |
| ER-894551 | <br>C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>2</sub>  | 338.41 | 0.0350 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-isopropyl-6-methylmorpholine-2-carboxamide                           | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.15 (6 H), 1.3 (3 H), 2.71 (2 H), 3.35 (1 H), 3.65 (1 H), 4.07 (2 H), 4.40 (1 H), 7.22 (1 H), 7.47 (1 H), 7.61 (1 H), 8.10 (1 H), 8.62 (1 H), 8.94 (1 H).                                                 | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O (M+H <sup>+</sup> ): 339.18 ; Found: 339.17              |
| ER-894552 | <br>C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub> | 361.4  | 0.1010 | > 10.0 | 5-((2R,6R)-2-methyl-6-((pyrazin-2-yl)methyl)morpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> ) δ ppm 1.31 (3 H), 2.73 (1 H), 2.93 (1 H), 3.33 (1 H), 3.46 (1 H), 4.13 (1 H), 4.34 (1 H), 4.43 (1 H), 4.52 (1 H), 7.13 (1 H), 7.54 (1 H), 8.07 (1 H), 8.09 (1 H), 8.16 (1 H), 8.30 (1 H), 8.49 (1 H), 9.09 (1 H).      | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ) 362.4, found 362.3      |

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FIG. 6CCC

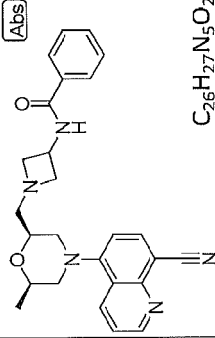
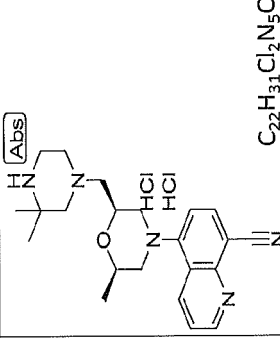
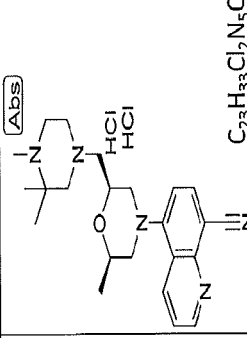
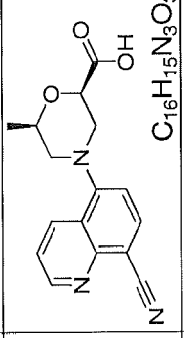
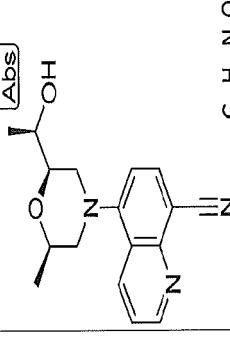
|           |                                                                                                                                                         |        |        |        |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| ER-894594 | <br>C <sub>26</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub>    | 441.5  | 0.0690 | >10.0  | N-(1-((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)azetidin-3-yl)benzamide                  | 1H NMR (DMSO-d <sub>6</sub> ) δ ppm 9.007 (m, 1H), 8.569 (m, 1H), 8.229 (d, 1H), 7.64 (dd, 1H), 7.19 (m, 1H), 4.13 (br s, 8H), 3.39 (m, 1H), 2.62 (m, 2H), 2.45 (s, 3H), 1.35 (br s, 6H), 1.14 (d, 3H)                                                                                                                                                                                                              | LCMS (ESI+) calcd. for: C <sub>26</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 393.3; found 393.4 |
| ER-894655 | <br>C <sub>22</sub> H <sub>31</sub> Cl <sub>2</sub> N <sub>5</sub> O | 452.4  | 0.0010 | 14.72  | 5-((2S,6R)-2-((3,3-dimethylpiperazin-1-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile dihydrochloride | 1H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.34 (3 H, d) 2.71 - 2.77 (1 H, m) 2.85 - 2.91 (1 H, m) 3.24 (1 H, d) 3.74 (1 H, d) 4.04 - 4.09 (1 H, m) 4.50 (1 H, d) 7.08 (1 H, d) 7.53 (1 H, d) 8.01 (1 H, d) 8.51 (1 H, d) 9.05 (1 H, s)                                                                                                                                                                           |                                                                                                                               |
| ER-894656 | <br>C <sub>23</sub> H <sub>33</sub> Cl <sub>2</sub> N <sub>5</sub> O | 466.5  | 0.0008 | 10.63  | 5-((2R,6R)-2-formyl-6-methylmorpholino)quinoline-8-carbonitrile                                               | 1H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.34 (3 H, d) 2.71 - 2.77 (1 H, m) 2.85 - 2.91 (1 H, m) 3.24 (1 H, d) 3.74 (1 H, d) 4.04 - 4.09 (1 H, m) 4.50 (1 H, d) 7.08 (1 H, d) 7.53 (1 H, d) 8.01 (1 H, d) 8.51 (1 H, d) 9.05 (1 H, s)                                                                                                                                                                           |                                                                                                                               |
| ER-895194 | <br>C <sub>16</sub> H <sub>15</sub> N <sub>3</sub> O <sub>3</sub>   | 297.30 | > 10.0 | > 10.0 | 5-((2R,6R)-2-((R)-1-hydroxyethyl)-6-methylmorpholino)quinoline-8-carbonitrile                                 | 1H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.21 - 1.28 (m, 9 H) 1.59 (br s, 4 H) 2.04 (br s, 1 H) 2.58 - 2.65 (m, 1 H) 2.84 - 2.91 (m, 1 H) 3.28 (s, 1 H) 3.25 (s, 1 H) 3.38 (s, 1 H) 3.35 (s, 1 H) 3.78 (d, J=10.55 Hz, 1 H) 3.94 (br s, 1 H) 4.04 (d, J=6.45 Hz, 1 H) 7.08 (d, J=7.91 Hz, 1 H) 7.24 (s, 1 H) 7.49 (dd, J=8.79, 4.10 Hz, 1 H) 8.02 (d, J=7.91 Hz, 1 H) 8.43 (d, J=8.50 Hz, 1 H) 9.05 (d, J=2.64 Hz, 1 H) |                                                                                                                               |
| ER-895200 | <br>C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> O <sub>2</sub>  | 297.4  | 0.1772 | > 10.0 | 5-((2R,6R)-2-((R)-1-hydroxyethyl)-6-methylmorpholino)quinoline-8-carbonitrile                                 | 1H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.21 - 1.28 (m, 9 H) 1.59 (br s, 4 H) 2.04 (br s, 1 H) 2.58 - 2.65 (m, 1 H) 2.84 - 2.91 (m, 1 H) 3.28 (s, 1 H) 3.25 (s, 1 H) 3.38 (s, 1 H) 3.35 (s, 1 H) 3.78 (d, J=10.55 Hz, 1 H) 3.94 (br s, 1 H) 4.04 (d, J=6.45 Hz, 1 H) 7.08 (d, J=7.91 Hz, 1 H) 7.24 (s, 1 H) 7.49 (dd, J=8.79, 4.10 Hz, 1 H) 8.02 (d, J=7.91 Hz, 1 H) 8.43 (d, J=8.50 Hz, 1 H) 9.05 (d, J=2.64 Hz, 1 H) |                                                                                                                               |

FIG. 6DDD

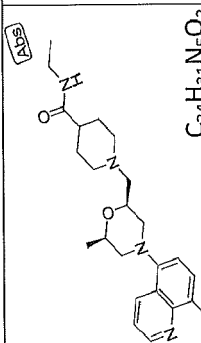
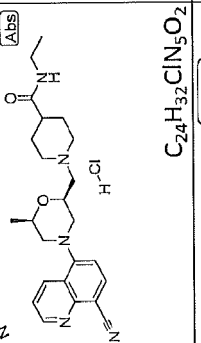
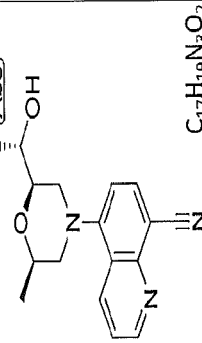
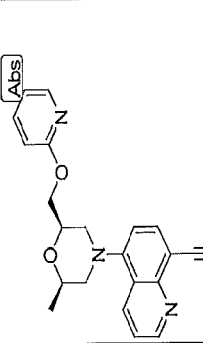
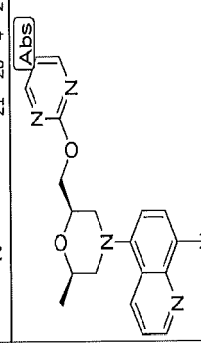
|           |                                                                                                                                                                               |       |        |        |                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ER-895204 | <br><chem>CCNC(=O)C1CCN(CC1)C2CCN(C2)Cc3ccnc4ccc(C#N)cc34</chem><br>$C_{24}H_{31}N_5O_2$   | 421.5 | 0.0017 | > 10.0 | 1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)-N-ethylpiperidine-4-carboxamide               | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.00 - 1.18 (m, 2 H) 1.26 (d, J=6.15 Hz, 3 H) 1.96 (br. s., 3 H) 2.32 (s, 2 H) 2.42 (br. s., 1 H) 2.53 - 2.82 (m, 2 H) 2.93 (br. s., 2 H) 3.03 - 3.25 (m, 3 H) 3.39 (s, 1 H) 3.36 (s, 1 H) 3.57 (s, 1 H) 3.55 (s, 1 H) 4.11 (br. s., 1 H) 4.35 (br. s., 1 H) 4.89 (br. s., 1 H) 7.13 - 7.41 (m, 2 H) 7.56 - 7.72 (m, 2 H) 8.12 (d, J=7.91 Hz, 1 H) 8.34 (br. s., 1 H) 8.48 - 8.74 (m, 1 H) 8.95 (dd, J=4.10, 1.76 Hz, 1 H) |                                                                                                               |
| ER-895204 | <br><chem>CCNC(=O)C1CCN(CC1)C2CCN(C2)Cc3ccnc4ccc(C#N)cc34</chem><br>$C_{24}H_{31}N_5O_2$   | 458.0 | 0.0270 | > 10.0 | 1-(((2S,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholin-2-yl)methyl)-N-ethylpiperidine-4-carboxamide hydrochloride |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               |
| ER-895310 | <br><chem>CCNC(=O)C1CCN(CC1)C2CCN(C2)Cc3ccnc4ccc(C#N)cc34</chem><br>$C_{24}H_{32}ClN_5O_2$ | 297.4 | 0.3940 | > 10.0 | 5-((2R,6R)-2-methyl-6-((pyridin-2-yl)methyl)morpholino)quinoline-8-carbonitrile                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               |
| ER-895324 | <br><chem>CCNC(=O)C1CCN(CC1)C2CCN(C2)Cc3ccnc4ccc(C#N)cc34</chem><br>$C_{17}H_{19}N_3O_2$  | 360.4 | 0.0280 | > 10.0 | 5-((2R,6R)-2-methyl-6-((pyridin-2-yl)methyl)morpholino)quinoline-8-carbonitrile                                   | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.29 (3 H, d) 2.63 - 2.75 (1 H, m) 2.80 - 2.94 (1 H, m) 3.22 - 3.36 (1 H, m) 3.40 - 3.50 (1 H, m) 4.01 - 4.14 (1 H, m) 4.27 - 4.40 (2 H, m) 4.44 - 4.56 (1 H, m) 6.73 - 6.80 (1 H, m) 6.83 - 6.91 (1 H, m) 7.08 (1 H, d) 7.41 - 7.52 (1 H, m) 7.53 - 7.61 (1 H, m) 7.98 - 8.06 (1 H, m) 8.08 - 8.16 (1 H, m) 8.39 - 8.53 (1 H, m) 8.99 - 9.11 (1 H, m)                                                                         | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>20</sub> N <sub>4</sub> O <sub>2</sub> (M+H+) 361.4, found 361.5 |
| ER-895325 | <br><chem>CCNC(=O)C1CCN(CC1)C2CCN(C2)Cc3ccnc4ccc(C#N)cc34</chem><br>$C_{20}H_{19}N_5O_2$ | 361.4 | 0.0345 | 5.351  | 5-((2R,6R)-2-methyl-6-((pyrimidin-2-yl)methyl)morpholino)quinoline-8-carbonitrile                                 | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.19 - 1.33 (3 H, d) 2.65 - 2.74 (1 H, m) 2.89 - 2.99 (1 H, m) 3.26 - 3.33 (1 H, m) 3.45 - 3.52 (1 H, m) 4.04 - 4.13 (1 H, m) 4.30 - 4.37 (1 H, m) 4.37 - 4.44 (1 H, m) 4.48 - 4.59 (1 H, m) 6.88 - 7.00 (1 H, m) 7.05 - 7.15 (1 H, m) 7.45 - 7.54 (1 H, m) 7.97 - 8.08 (1 H, m) 8.42 - 8.57 (3 H, m) 8.99 - 9.12 (1 H, m)                                                                                                     | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub> (M+H+) 362.4, found 362.0 |

FIG. 6EEE

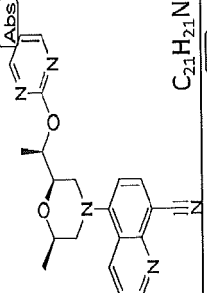
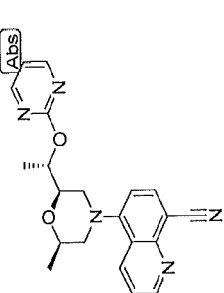
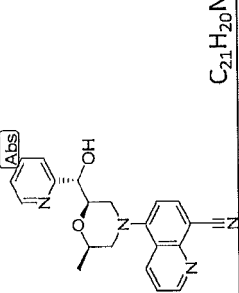
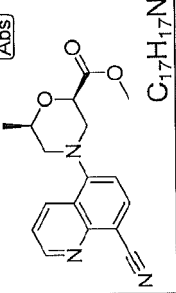
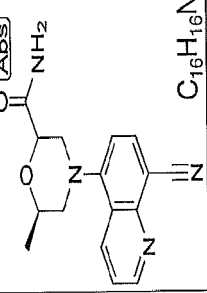
|           |                                                                                       |        |        |        |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| ER-895326 |    | 375.4  | 0.0380 | > 10.0 | 5-((2R,6R)-2-methyl-6-((R)-1-(pyrimidin-2-yloxy)ethyl)morpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.25 (3 H, d) 1.46 (3 H, d) 2.61 - 2.70 (1 H, m) 2.74 - 2.89 (1 H, m) 3.18 - 3.31 (1 H, m) 3.47 - 3.59 (1 H, m) 3.95 - 4.11 (2 H, m) 5.16 - 5.31 (1 H, m) 6.85 - 6.95 (1 H, m) 7.00 - 7.12 (1 H, m) 7.45 - 7.56 (1 H, m) 7.94 - 8.06 (1 H, m) 8.41 - 8.52 (3 H, m) 8.98 - 9.09 (1 H, m)                                                                                                                                | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>21</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 376.4, found 376.4    |
| ER-895327 |    | 375.4  | 0.1750 | > 10.0 | 5-((2R,6R)-2-methyl-6-((S)-1-(pyrimidin-2-yloxy)ethyl)morpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.84 - 0.88 (m, 1 H) 1.24 (d, J=6.15 Hz, 4 H) 1.43 (d, J=6.45 Hz, 4 H) 1.59 (s, 6 H) 2.62 - 2.69 (m, 1 H) 2.93 - 3.00 (m, 1 H) 3.27 (d, J=11.72 Hz, 1 H) 3.37 (d, J=11.43 Hz, 1 H) 4.00 - 4.07 (m, 1 H) 4.11 - 4.16 (m, 1 H) 5.34 - 5.40 (m, 1 H) 6.90 - 6.93 (m, 1 H) 7.07 (m, 1 H) 7.24 (s, 2 H) 7.48 (dd, J=8.50, 4.10 Hz, 1 H) 8.01 (d, J=7.91 Hz, 1 H) 8.40 - 8.44 (m, 1 H) 8.49 (d, J=4.98 Hz, 2 H) 9.03 - 9.06 (m, 1 H) |                                                                                                                                |
| ER-895412 |    | 360.4  | 0.0961 | > 10.0 | 5-((2R,6R)-2-((S)-hydroxy(pyridin-2-yl)methyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.10 - 1.20 (3 H, m) 2.59 - 2.70 (1 H, m) 2.81 - 2.91 (1 H, m) 3.37 - 3.45 (1 H, m) 3.93 - 4.03 (1 H, m) 4.16 - 4.28 (1 H, m) 4.56 - 4.62 (1 H, m) 4.70 - 4.78 (1 H, m) 7.13 - 7.22 (1 H, m) 7.25 - 7.34 (1 H, m) 7.49 - 7.59 (2 H, m) 7.75 - 7.85 (1 H, m) 8.03 - 8.14 (1 H, m) 8.44 - 8.57 (2 H, m) 8.86 - 8.94 (1 H, m)                                                                                         | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>20</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 361.4, found 361.4    |
| ER-895415 |   | 311.34 | 0.2367 | > 10.0 | (2R,6R)-methyl 4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxylate                   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 0.67 - 0.81 (m, 1 H) 0.86 (d, J=6.15 Hz, 4 H) 1.07 (s, 1 H) 2.24 (dd, J=12.01, 10.25 Hz, 2 H) 2.40 - 2.61 (m, 1 H) 2.79 (dt, J=11.87, 2.27 Hz, 2 H) 3.14 (dt, J=11.87, 2.42 Hz, 1 H) 3.45 - 3.67 (m, 1 H) 4.10 (dd, J=10.69, 2.49 Hz, 1 H) 6.62 (d, J=7.91 Hz, 1 H) 6.76 (s, 1 H) 7.05 (dd, J=8.50, 4.39 Hz, 1 H) 7.56 (d, J=7.91 Hz, 1 H) 7.97 (dd, J=8.50, 1.76 Hz, 1 H) 8.59 (dd, J=4.25, 1.61 Hz, 1 H)         |                                                                                                                                |
| ER-895472 |  | 296.33 | 0.0870 | > 10.0 | (6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                             | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.30 (3 H), 2.74 (2 H), 3.36 (1 H), 3.69 (1 H), 4.11 (2 H), 4.43 (1 H), 7.24 (1 H), 7.63 (1 H), 8.12 (1 H), 8.19 (1 H), 8.64 (1 H), 8.95 (1 H).                                                                                                                                                                                                                                                                    | LCMS (ESI+) calcd for C <sub>16</sub> H <sub>16</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 297.13; Found: 297.27 |

FIG. 6FFF

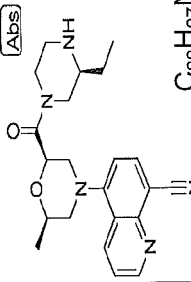
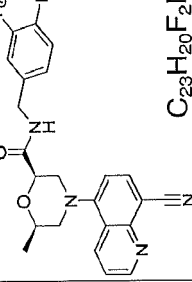
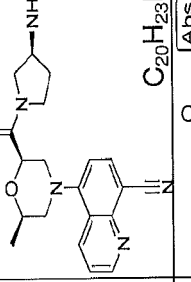
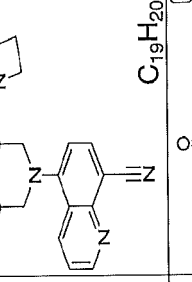
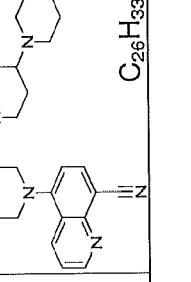
|           |                                                                                                                |        |        |        |                                                                                              |                                                                                                                                                                                                                                                                                           |                                                                                                                                               |
|-----------|----------------------------------------------------------------------------------------------------------------|--------|--------|--------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| ER-895473 | <br>$C_{22}H_{27}N_5O_2$    | 393.49 | 0.0530 | > 10.0 | 5-((2R,6R)-2-((S)-3-ethylpiperazine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.06 (3 H), 1.25 (3 H), 1.64 (2 H), 2.67 (1 H), 2.96 (2 H), 3.11 (2 H), 3.36 (2 H), 3.47 (1 H), 4.18 (2 H), 4.40 (1 H), 4.56 (1 H), 4.80 (1 H), 7.26 (1 H), 7.59 (1 H), 8.13 (1 H), 8.35 (1 H), 8.61 (1 H), 8.94 (1 H).            | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 394.22 ; Found: 394.06               |
| ER-895474 | <br>$C_{22}H_{27}N_5O_2$    | 422.43 | 0.1030 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(3,4-difluorobenzyl)-6-methylmorpholine-2-carboxamide     | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.31 (3 H), 2.74 (3 H), 3.36 (1 H), 3.69 (1 H), 4.11 (1 H), 4.36 (2 H), 4.5 (1 H), 7.19 (4 H), 7.62 (1 H), 8.11 (1 H), 8.64 (1 H), 8.95 (1 H).                                                                                     | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>20</sub> F <sub>2</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 423.16 ; Found: 423.4 |
| ER-895475 | <br>$C_{23}H_{20}F_2N_4O_2$ | 365.43 | 0.0440 | > 10.0 | 5-((2R,6R)-2-((S)-3-aminopyrrolidine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.25 (1 H), 1.76 (1 H), 2.00 (1 H), 2.09 (2 H), 2.67 (2 H), 3.03 (2 H), 3.16 (1 H), 3.27 (1 H), 3.35 (2 H), 3.46 (2 H), 3.63 (2 H), 3.96 (1 H), 4.11 (1 H), 4.67 (1 H), 7.23 (1 H), 7.59 (1 H), 8.1 (1 H), 8.61 (1 H), 8.93 (1 H). | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 366.19 ; Found: 366.39               |
| ER-895476 | <br>$C_{20}H_{23}N_5O_2$   | 336.39 | 0.0370 | > 10.0 | 5-((2R,6R)-2-((S)-3-ethylpiperazine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.25 (3 H), 2.31 (2 H), 2.67 (1 H), 2.92 (1 H), 3.35 (1 H), 3.52 (1 H), 4.05 (3 H), 4.51 (3 H), 7.25 (1 H), 7.63 (1 H), 8.13 (1 H), 8.65 (1 H), 8.96 (1 H).                                                                        |                                                                                                                                               |
| ER-895477 | <br>$C_{19}H_{20}N_4O_2$  | 447.58 | 0.1110 | > 10.0 | 5-((2R,6R)-2-((1',4'-bipiperidine)-1'-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.25 (3 H), 1.53 (m, 3 H), 1.75 (m, 4 H), 1.98 (2 H), 2.13 (3 H), 2.69 (2 H), 3.06 (4 H), 3.44 (4 H), 4.14 (1 H), 4.38 (1 H), 4.64 (1 H), 7.27 (1 H), 7.61 (1 H), 8.13 (1 H), 8.63 (1 H), 8.95 (1 H).                              | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>33</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 448.26 ; Found: 448.5                |

FIG. 6GGG

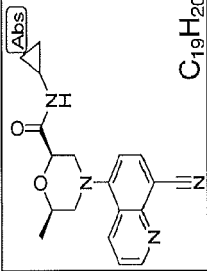
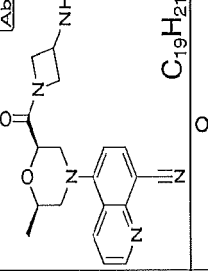
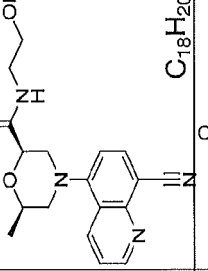
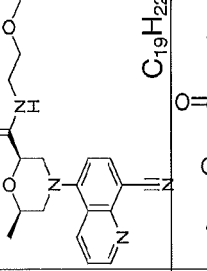
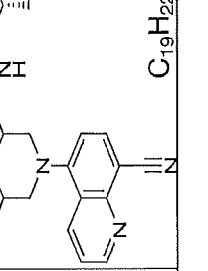
|           |                                                                                       |        |        |        |                                                                                           |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                 |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| ER-895478 |    | 336.39 | 0.0110 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-cyclopropyl-6-methylmorpholine-2-carboxamide           | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 0.55 (2 H), 0.72 (2 H), 0.86 (1 H), 1.28 (3 H), 2.71 (2 H), 3.34 (1 H), 3.64 (1 H), 4.08 (1 H), 4.41 (1 H), 7.73 (1 H), 7.62 (1 H), 7.83 (1 H), 8.12 (1 H), 8.63 (1 H), 8.95 (1 H).                                                                                  | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>20</sub> N <sub>4</sub> O <sub>2</sub> (M+H) <sup>+</sup> : 337.16 ; Found: 336.98 |
| ER-895479 |    | 351.41 | 0.0030 | > 10.0 | 5-((2R,6R)-2-(3-aminoazetidino-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile    | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.25 (3 H), 2.67 (1 H), 2.91 (1 H), 3.35 (1 H), 3.53 (1 H), 3.66 (1 H), 3.79 (1 H), 4.08 (2 H), 4.16 (2 H), 4.57 (3 H), 7.24 (1 H), 7.61 (1 H), 8.12 (1 H), 8.62 (1 H), 8.95 (1 H).                                                                                  | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>21</sub> N <sub>5</sub> O <sub>2</sub> (M+H) <sup>+</sup> : 352.17 ; Found: 352.34 |
| ER-897383 |    | 340.38 | 0.2965 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxyethyl)-6-methylmorpholine-2-carboxamide      | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) d ppm 1.30 (3 H, d) 2.66 (1 H, s) 2.76 (1 H, s) 3.22 - 3.35 (1 H, m) 3.40 - 3.58 (3 H, m) 3.69 - 3.85 (4 H, m) 4.01 - 4.13 (1 H, m) 4.35 - 4.50 (1 H, m) 6.96 - 7.16 (1 H, m) 7.41 - 7.60 (1 H, m) 7.92 - 8.05 (1 H, m) 8.34 - 8.50 (1 H, m) 8.95 - 9.11 (1 H, m)        | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>20</sub> N <sub>4</sub> O <sub>3</sub> [M+H] <sup>+</sup> 341.2, found 341.2       |
| ER-897385 |   | 354.41 | 0.0483 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-methoxyethyl)-6-methylmorpholine-2-carboxamide      | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) d ppm 1.30 (3 H, d) 2.59 - 2.82 (2 H, m) 3.35 - 3.49 (8 H, m) 3.54 - 3.71 (1 H, m) 4.03 - 4.17 (1 H, m) 4.36 - 4.50 (1 H, m) 7.13 - 7.27 (1 H, m) 7.54 - 7.69 (1 H, m) 8.06 - 8.15 (1 H, m) 8.54 - 8.71 (1 H, m) 8.89 - 9.11 (1 H, m)                                | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> 355.4, found 355.2       |
| ER-897445 |  | 354.41 | 0.0440 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-2-hydroxypropyl)-6-methylmorpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) d ppm 1.12 (3 H, d) 1.30 (3 H, d) 2.63 - 2.81 (2 H, m) 3.14 (1 H, dd) 3.24 - 3.31 (1 H, m) 3.36 (1 H, d) 3.68 (1 H, d) 3.74 - 3.88 (1 H, m) 4.00 - 4.18 (1 H, m) 4.47 (1 H, dd) 7.22 (1 H, d) 7.62 (1 H, dd) 8.10 (1 H, d) 8.57 - 8.69 (1 H, m) 8.84 - 9.04 (1 H, m) | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> 355.4, found 355.2       |

FIG. 6HHH

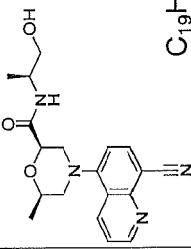
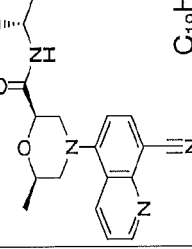
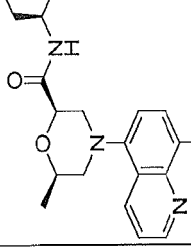
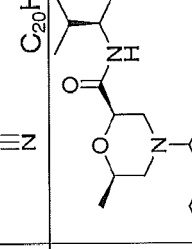
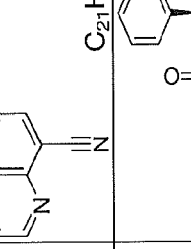
|           |                                                                                                                                                                         |        |        |        |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                          |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ER-897446 | <br><chem>C[C@H](O)CN(C1CCN(C1)c2ccc3c(c2)ncn3C#N)C</chem><br>$C_{19}H_{22}N_4O_3$   | 354.41 | 0.0255 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxypropan-2-yl)-6-methylmorpholine-2-carboxamide         | <sup>1</sup> H NMR (400 MHz, CDCl <sub>3</sub> -d) δ ppm 1.22 (3 H, d) 1.31 (3 H, d) 1.92 - 2.28 (1 H, brs) 2.61 - 2.71 (1 H, m) 2.72 - 2.84 (1 H, m) 3.22 - 3.31 (1 H, m) 3.50 - 3.61 (1 H, m) 3.64 - 3.72 (1 H, m) 3.73 - 3.84 (1 H, m) 4.03 - 4.17 (2 H, m) 4.35 - 4.46 (1 H, m) 6.69 - 6.85 (1 H, m) 6.98 - 7.13 (1 H, m) 7.45 - 7.57 (1 H, m) 7.94 - 8.07 (1 H, m) 8.37 - 8.50 (1 H, m) 8.93 - 9.16 (1 H, m)                                                                                                                                                     | LCMS (ESI <sup>+</sup> ) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ) 355.4, found 355.2  |
| ER-897447 | <br><chem>C[C@H](O)CN(C1CCN(C1)c2ccc3c(c2)ncn3C#N)C</chem><br>$C_{19}H_{22}N_4O_3$   | 354.41 | 0.0920 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-1-hydroxypropan-2-yl)-6-methylmorpholine-2-carboxamide         | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.12 (3 H, s) 1.30 (3 H, d) 2.62 - 2.82 (3 H, m) 3.34 (1 H, d) 3.61 - 3.72 (1 H, m) 3.92 - 4.17 (3 H, m) 4.44 (1 H, dd) 7.14 - 7.29 (1 H, m) 7.56 - 7.66 (1 H, m) 8.00 - 8.15 (1 H, m) 8.55 - 8.66 (1 H, m) 8.86 - 8.98 (1 H, m)                                                                                                                                                                                                                                                                         | LCMS (ESI <sup>+</sup> ) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ) 355.4, found: 355.2 |
| ER-897827 | <br><chem>C[C@H](O)CN(C1CCN(C1)c2ccc3c(c2)ncn3C#N)C</chem><br>$C_{19}H_{22}N_4O_3$   | 368.43 | 0.0200 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxybutan-2-yl)-6-methylmorpholine-2-carboxamide          | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.99 - 1.12 (m, 1 H) 1.17 (t, J=7.47 Hz, 4 H) 1.38 - 1.48 (m, 2 H) 1.52 (d, J=6.15 Hz, 4 H) 1.66 - 1.92 (m, 3 H) 2.80 - 3.04 (m, 3 H) 3.48 (dt, J=11.94, 2.09 Hz, 1 H) 3.81 (dd, J=11.13, 6.15 Hz, 1 H) 3.91 (dd, J=11.13, 3.52 Hz, 1 H) 3.98 (dt, J=12.01, 2.34 Hz, 1 H) 4.02 - 4.13 (m, 1 H) 4.21 - 4.36 (m, 2 H) 4.63 (dd, J=10.84, 2.64 Hz, 1 H) 6.97 (d, J=8.20 Hz, 1 H) 7.25 (s, 1 H) 7.71 (dd, J=8.64, 4.25 Hz, 1 H) 8.21 (d, J=7.91 Hz, 1 H) 8.66 (dd, J=8.50, 1.76 Hz, 1 H) 9.24 (dd, J=4.25, 1.61 Hz, 1 H) |                                                                                                                                          |
| ER-897828 | <br><chem>C[C@H](O)CN(C1CCN(C1)c2ccc3c(c2)ncn3C#N)C</chem><br>$C_{20}H_{24}N_4O_3$  | 382.46 | 0.0190 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxy-3-methylbutan-2-yl)-6-methylmorpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.79 - 0.87 (m, 1 H) 0.95 (dd, J=10.40, 6.89 Hz, 7 H) 1.16 - 1.27 (m, 2 H) 1.30 (d, J=6.15 Hz, 4 H) 1.85 - 2.03 (m, 2 H) 2.65 (dd, J=12.01, 10.25 Hz, 1 H) 2.75 (dd, J=12.01, 10.84 Hz, 2 H) 3.25 (dt, J=12.01, 2.05 Hz, 1 H) 3.55 - 3.80 (m, 5 H) 3.98 - 4.15 (m, 1 H) 4.43 (dd, J=10.55, 2.64 Hz, 1 H) 6.82 (d, J=8.50 Hz, 1 H) 7.03 (d, J=7.91 Hz, 1 H) 7.49 (dd, J=8.64, 4.25 Hz, 1 H) 7.97 (d, J=7.91 Hz, 1 H) 8.43 (dd, J=8.50, 1.76 Hz, 1 H) 9.01 (dd, J=4.39, 1.76 Hz, 1 H)                                  |                                                                                                                                          |
| ER-897829 | <br><chem>C[C@H](O)CN(C1CCN(C1)c2ccc3c(c2)ncn3C#N)C</chem><br>$C_{21}H_{26}N_4O_3$ | 416.48 | 0.0550 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-2-hydroxy-1-phenylethyl)-6-methylmorpholine-2-carboxamide      | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.76 - 0.89 (m, 1 H) 1.14 - 1.41 (m, 6 H) 2.68 (dd, J=11.87, 10.40 Hz, 1 H) 2.79 - 2.86 (m, 1 H) 3.23 - 3.31 (m, 1 H) 3.76 - 3.82 (m, 1 H) 3.89 (d, J=4.98 Hz, 2 H) 4.03 - 4.13 (m, 1 H) 4.43 (dd, J=10.84, 2.64 Hz, 1 H) 5.07 (dt, J=7.47, 5.05 Hz, 1 H) 7.05 (d, J=7.91 Hz, 1 H) 7.21 - 7.39 (m, 7 H) 7.48 (dd, J=8.64, 4.25 Hz, 1 H) 7.99 (d, J=8.20 Hz, 1 H) 8.43 (dd, J=8.64, 1.61 Hz, 1 H) 9.01 (dd, J=4.25, 1.61 Hz, 1 H)                                                                                     |                                                                                                                                          |

FIG. 6III

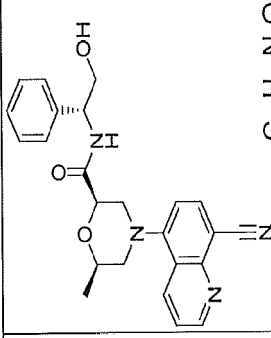
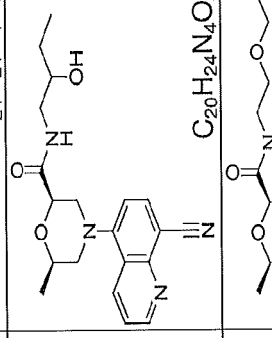
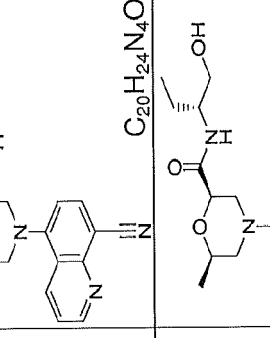
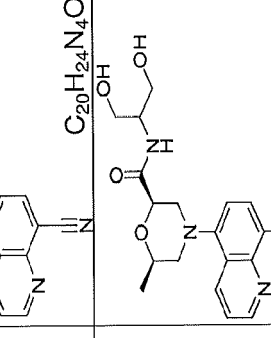
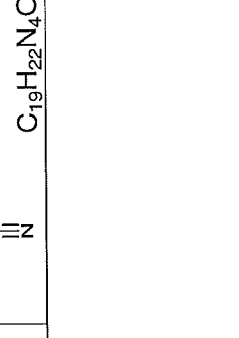
|           |                                                                                                                  |        |        |        |                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |
|-----------|------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| ER-897830 | <br><chem>C24H24N4O3</chem>   | 416.48 | 0.1050 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-2-hydroxy-1-phenylethyl)-6-methylmorpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.79 - 0.88 (m, 1 H) 1.15 - 1.37 (m, 6 H) 2.63 - 2.77 (m, 2 H) 3.28 (dt, J=12.01, 2.05 Hz, 1 H) 3.76 (dt, J=12.01, 2.20 Hz, 1 H) 3.92 (d, J=4.98 Hz, 3 H) 4.06 - 4.15 (m, 1 H) 4.49 (dd, J=10.55, 2.64 Hz, 1 H) 5.09 (dt, J=7.62, 4.98 Hz, 1 H) 7.04 (d, J=8.20 Hz, 1 H) 7.23 - 7.40 (m, 7 H) 7.50 (dd, J=8.50, 4.39 Hz, 1 H) 7.99 (d, J=7.91 Hz, 1 H) 8.45 (dd, J=8.50, 1.76 Hz, 1 H) 9.03 (dd, J=4.25, 1.61 Hz, 1 H) | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> : 369.19, found: 369.18 |
| ER-897922 | <br><chem>C20H24N4O3</chem>   | 368.43 | 0.0280 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxybutyl)-6-methylmorpholine-2-carboxamide              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> : 369.19, found: 369.18 |
| ER-897923 | <br><chem>C20H24N4O3</chem>  | 368.43 | 0.0520 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-ethoxyethyl)-6-methylmorpholine-2-carboxamide               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> : 369.19, found: 369.18 |
| ER-897924 | <br><chem>C20H24N4O3</chem> | 368.43 | 0.0880 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-1-hydroxybutan-2-yl)-6-methylmorpholine-2-carboxamide     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> (M+H) <sup>+</sup> : 369.19, found: 369.18 |
| ER-897925 | <br><chem>C19H22N4O4</chem> | 370.41 | 0.1780 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1,3-dihydroxypropan-2-yl)-6-methylmorpholine-2-carboxamide    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>22</sub> N <sub>4</sub> O <sub>4</sub> (M+H) <sup>+</sup> : 371.17, found: 371.16 |

FIG. 6JJ

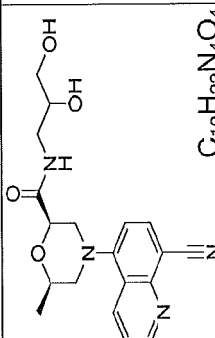
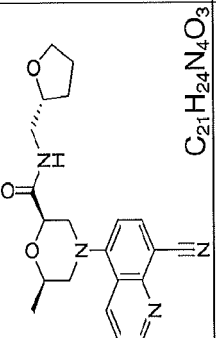
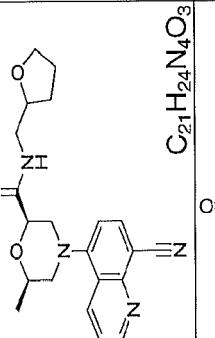
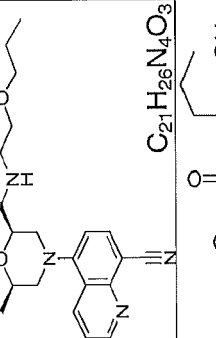
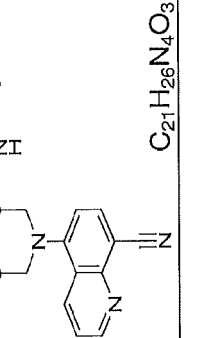
|           |                                                                                                               |        |        |       |                                                                                                      |                                                                          |
|-----------|---------------------------------------------------------------------------------------------------------------|--------|--------|-------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| ER-897926 | <br>$C_{19}H_{22}N_4O_4$   | 370.41 | 0.1710 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2,3-dihydroxypropyl)-6-methylmorpholine-2-carboxamide            | LCMS (ESI+) calcd for $C_{19}H_{22}N_4O_4$ (M+H+): 371.17, found: 371.16 |
| ER-897927 | <br>$C_{21}H_{24}N_4O_3$   | 380.45 | 0.0500 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-tetrahydrofuran-2-yl)methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for $C_{21}H_{24}N_4O_3$ (M+H+): 381.19, found: 381.18 |
| ER-897928 | <br>$C_{21}H_{24}N_4O_3$   | 380.45 | 0.0440 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-tetrahydrofuran-2-yl)methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for $C_{21}H_{24}N_4O_3$ (M+H+): 381.19, found: 381.18 |
| ER-897929 | <br>$C_{21}H_{24}N_4O_3$  | 382.46 | 0.0800 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-propoxyethyl)morpholine-2-carboxamide                 | LCMS (ESI+) calcd for $C_{21}H_{24}N_4O_3$ (M+H+): 383.20, found: 383.2  |
| ER-897930 | <br>$C_{21}H_{26}N_4O_3$ | 382.24 | 0.0810 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-1-hydroxypentan-2-yl)methylmorpholine-2-carboxamide          | LCMS (ESI+) calcd for $C_{21}H_{26}N_4O_3$ (M+H+): 383.20, found: 383.2  |

FIG. 6KKK

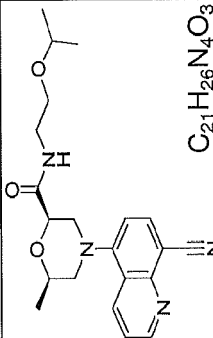
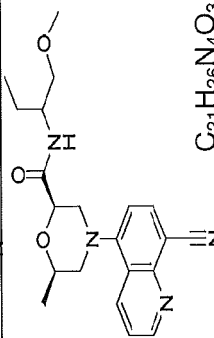
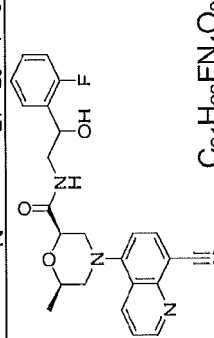
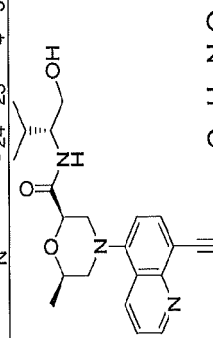
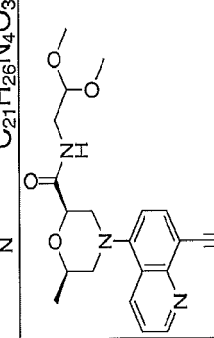
|           |                                                                                       |        |        |       |                                                                                                         |                                                                                                                                 |
|-----------|---------------------------------------------------------------------------------------|--------|--------|-------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| ER-897931 |    | 382.46 | 0.0750 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-isopropoxyethyl)-6-methylmorpholine-2-carboxamide                 | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 383.20; found: 383.2   |
| ER-897932 |    | 382.46 | 0.0220 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1-methoxybutan-2-yl)-6-methylmorpholine-2-carboxamide               | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 383.20; found: 383.2   |
| ER-897933 |    | 434.47 | 0.0560 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(2-fluorophenyl)-2-hydroxyethyl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 435.18; found: 435.18 |
| ER-897934 |   | 382.46 | 0.1180 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-1-hydroxy-3-methylbutan-2-yl)-6-methylmorpholine-2-carboxamide  | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 383.20; found: 383.2   |
| ER-897935 |  | 384.43 | 0.0240 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2,2-dimethoxyethyl)-6-methylmorpholine-2-carboxamide                | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>24</sub> N <sub>4</sub> O <sub>4</sub> (M+H <sup>+</sup> ): 385.18; found: 385.18  |

FIG. 6LLL

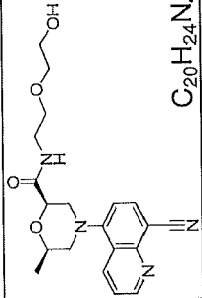
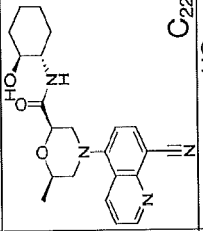
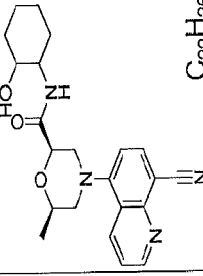
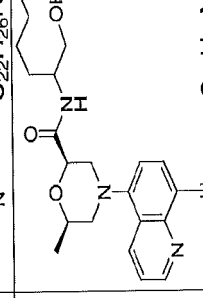
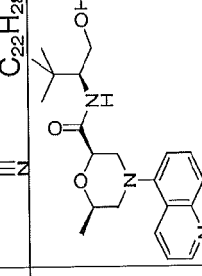
|           |                                                                                                               |        |        |       |                                                                                                            |                                                                          |
|-----------|---------------------------------------------------------------------------------------------------------------|--------|--------|-------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| ER-897936 | <br>$C_{20}H_{24}N_4O_4$   | 384.43 | 0.0510 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(2-hydroxyethoxy)ethyl)-6-methylmorpholine-2-carboxamide             | LCMS (ESI+) calcd for $C_{20}H_{24}N_4O_4$ (M+H+): 385.18; found: 385.18 |
| ER-897937 | <br>$C_{20}H_{24}N_4O_4$   | 394.47 | 0.0520 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((1S,2S)-2-hydroxycyclohexyl)-6-methylmorpholine-2-carboxamide          | LCMS (ESI+) calcd for $C_{22}H_{26}N_4O_3$ (M+H+): 395.20; found: 395.18 |
| ER-897938 | <br>$C_{22}H_{26}N_4O_3$   | 394.47 | 0.0190 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxycyclohexyl)-6-methylmorpholine-2-carboxamide                  | LCMS (ESI+) calcd for $C_{22}H_{26}N_4O_3$ (M+H+): 395.20; found: 395.2  |
| ER-897939 | <br>$C_{22}H_{26}N_4O_3$  | 396.49 | 0.0630 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1-hydroxyhexan-2-yl)-6-methylmorpholine-2-carboxamide                  | LCMS (ESI+) calcd for $C_{22}H_{28}N_4O_3$ (M+H+): 397.22; found: 397.22 |
| ER-897940 | <br>$C_{22}H_{28}N_4O_3$ | 396.49 | 0.0270 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxy-3,3-dimethylbutan-2-yl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for $C_{22}H_{28}N_4O_3$ (M+H+): 397.22; found: 397.22 |

FIG. 6MMM

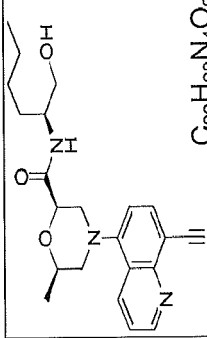
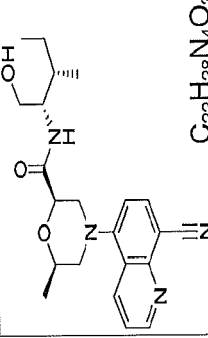
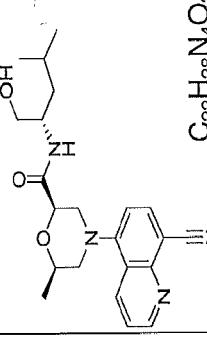
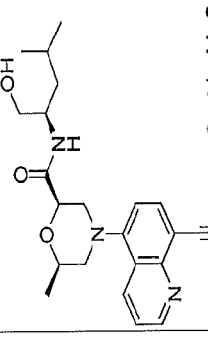
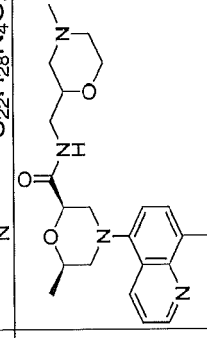
|           |                                                                                                                                                        |        |        |       |                                                                                                             |                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-897941 | <br>C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub>   | 396.49 | 0.0390 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxyhexan-2-yl)-6-methylmorpholine-2-carboxamide               | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 397.22; found: 397.22 |
| ER-897942 | <br>C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub>   | 396.49 | 0.0190 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((2S,3S)-1-hydroxy-3-methylpentan-2-yl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 397.22; found: 397.22 |
| ER-897943 | <br>C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub>   | 396.49 | 0.0710 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxy-4-methylpentan-2-yl)-6-methylmorpholine-2-carboxamide     | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 397.22; found: 397.22 |
| ER-897944 | <br>C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub>  | 396.49 | 0.1390 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((R)-1-hydroxy-4-methylpentan-2-yl)-6-methylmorpholine-2-carboxamide     | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>28</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 397.22; found: 397.22 |
| ER-897945 | <br>C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>3</sub> | 409.49 | 0.0070 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((4-methylmorpholin-2-yl)methyl)morpholine-2-carboxamide        | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>3</sub> (M+H+): 410.21; found: 410.21 |

FIG. 6NNN

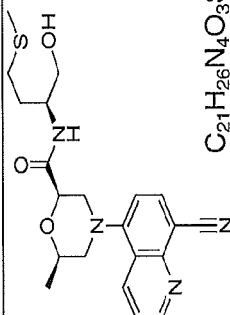
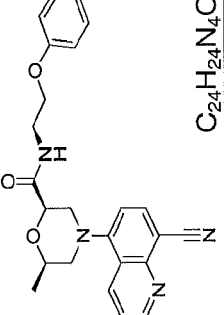
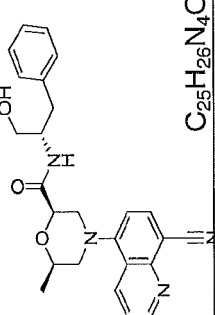
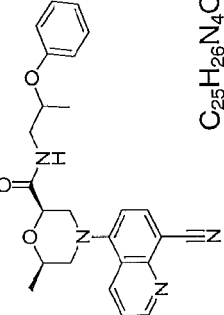
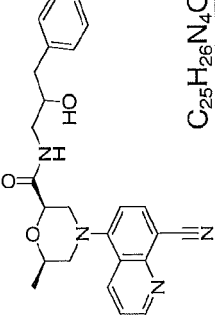
|           |                                                                                                                  |        |        |       |                                                                                                              |                                                                 |
|-----------|------------------------------------------------------------------------------------------------------------------|--------|--------|-------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| ER-897946 | <br><chem>C21H26N4O3S</chem>  | 414.53 | 0.0540 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxy-4-(methylthio)butan-2-yl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C21H26N4O3S (M+H+): 415.18; found: 415.17 |
| ER-897947 | <br><chem>C24H24N4O3</chem>   | 416.48 | 0.3950 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-phenoxyethyl)morpholine-2-carboxamide                         | LCMS (ESI+) calcd for C21H26N4O3S (M+H+): 415.18; found: 417.18 |
| ER-897948 | <br><chem>C24H24N4O3</chem>   | 430.51 | 0.0600 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-hydroxy-3-phenylpropan-2-yl)-6-methylmorpholine-2-carboxamide      | LCMS (ESI+) calcd for C25H26N4O3 (M+H+): 431.2; found: 431.20   |
| ER-897949 | <br><chem>C25H26N4O3</chem>  | 430.51 | 0.4830 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-phenoxypropyl)morpholine-2-carboxamide                        | LCMS (ESI+) calcd for C25H26N4O3 (M+H+): 431.2; found: 431.20   |
| ER-897950 | <br><chem>C25H26N4O3</chem> | 430.51 | 0.0700 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxy-3-phenylpropyl)-6-methylmorpholine-2-carboxamide               | LCMS (ESI+) calcd for C25H26N4O3 (M+H+): 431.2; found: 431.20   |

FIG. 6000

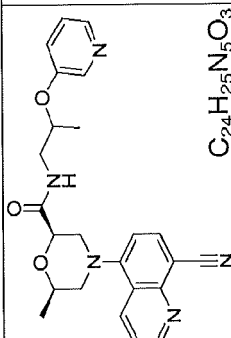
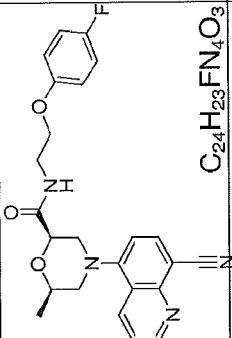
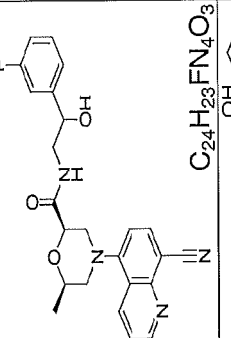
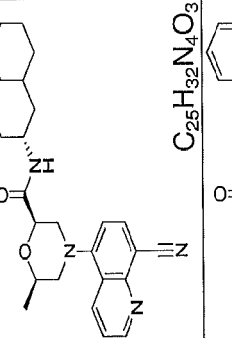
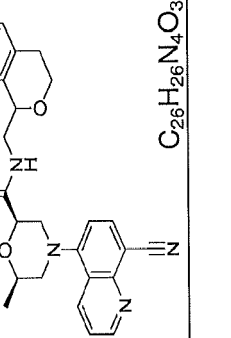
|           |                                                                                                                                                        |        |        |       |                                                                                                         |                                                                                                                                 |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| ER-897952 | <br>C <sub>24</sub> H <sub>25</sub> N <sub>5</sub> O <sub>3</sub>   | 431.49 | 0.0380 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-(pyridin-3-yloxy)propyl)morpholine-2-carboxamide         | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>25</sub> N <sub>5</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 432.2; found: 432.2    |
| ER-897955 | <br>C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub>  | 434.47 | 0.3550 | 9.200 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(4-fluorophenoxy)ethyl)-6-methylmorpholine-2-carboxamide          | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 435.18; found: 435.18 |
| ER-897956 | <br>C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub>  | 434.47 | 0.0620 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(3-fluorophenyl)-6-hydroxyethyl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>24</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 435.18; found: 435.18 |
| ER-897957 | <br>C <sub>25</sub> H <sub>32</sub> N <sub>4</sub> O <sub>3</sub>  | 436.55 | 0.0800 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-1-cyclohexyl-3-hydroxypropyl)-6-methylmorpholine-2-carboxamide  | LCMS (ESI+) calcd for C <sub>25</sub> H <sub>32</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 437.25; found: 437.25  |
| ER-897958 | <br>C <sub>26</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> | 442.52 | 0.1330 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(isochroman-1-ylmethyl)-6-methylmorpholine-2-carboxamide             | LCMS (ESI+) calcd for C <sub>26</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 443.20; found: 443.20  |

FIG. 6PPP

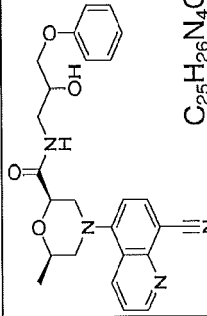
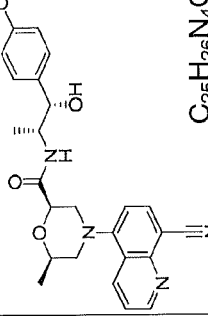
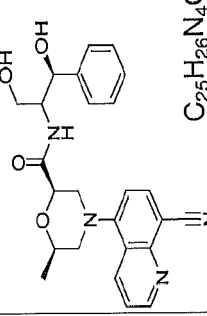
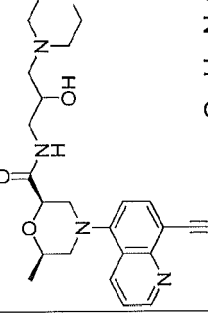
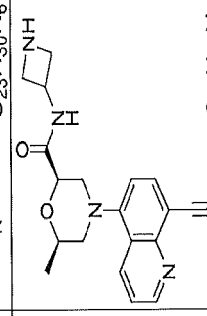
|           |                                                                                       |        |        |       |                                                                                                              |                                                                |
|-----------|---------------------------------------------------------------------------------------|--------|--------|-------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ER-897960 |    | 446.50 | 0.1490 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxy-3-phenoxypropyl)-6-methylmorpholine-2-carboxamide              | LCMS (ESI+) calcd for C25H26N4O4 (M+H+): 447.20; found: 447.2  |
| ER-897961 |    | 446.50 | 0.0280 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((1S,2R)-1-(4-hydroxyphenyl)propan-2-yl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C25H26N4O4 (M+H+): 447.20; found: 447.2  |
| ER-897962 |    | 446.50 | 0.0230 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((1S)-1,3-dihydroxy-1-phenylpropan-2-yl)-6-methylmorpholine-2-carboxamide | LCMS (ESI+) calcd for C25H26N4O4 (M+H+): 447.20; found: 447.2  |
| ER-897963 |   | 438.53 | 0.0330 | 5.024 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-hydroxy-3-(piperazin-1-yl)propyl)-6-methylmorpholine-2-carboxamide     | LCMS (ESI+) calcd for C23H30N6O3 (M+H+): 439.24; found: 439.24 |
| ER-897964 |  | 351.41 | 0.0280 | 4.526 | (2R,6R)-N-(azetidin-3-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                          | LCMS (ESI+) calcd for C19H21N5O2 (M+H+): 352.17; found: 352.17 |

FIG. 6QQQ

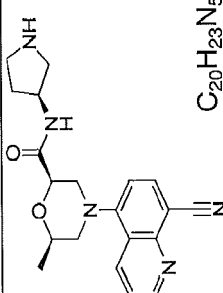
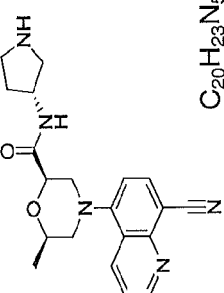
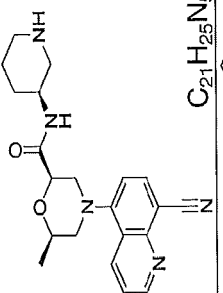
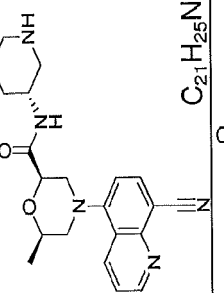
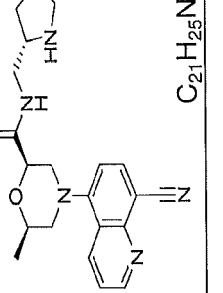
|           |                                                                                       |        |        |        |                                                                                           |                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-897965 |    | 365.43 | 0.0100 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((S)-pyrrolidin-3-yl)morpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 366.19; found: 366.19 |
| ER-897966 |    | 365.43 | 0.0370 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-pyrrolidin-3-yl)morpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 366.19; found: 366.19 |
| ER-897967 |    | 379.46 | 0.0100 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((S)-piperidin-3-yl)morpholine-2-carboxamide  | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 380.20; found: 380.2  |
| ER-897968 |   | 379.46 | 0.0095 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-piperidin-3-yl)morpholine-2-carboxamide  | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 380.20; found: 380.2  |
| ER-897969 |  | 379.46 | 0.0150 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((S)-pyrrolidin-2-yl)morpholine-2-carboxamide | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 380.20; found: 380.19 |

FIG. 6RRR

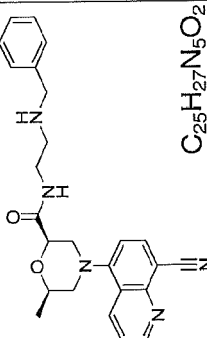
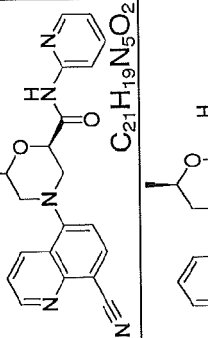
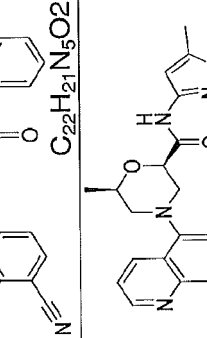
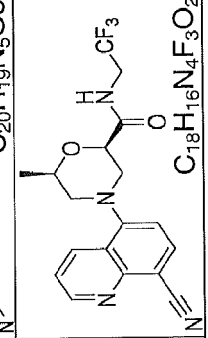
|           |                                                                                                                    |        |        |        |                                                                                             |                                                                                                                                                                                                                                              |                                                                                                                                              |
|-----------|--------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| ER-897970 | <br><chem>C25H27N5O2</chem>     | 429.52 | 0.0380 | > 10.0 | (2R,6R)-N-(2-(benzylaminoethyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide   | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.38 (3 H), 2.76 (1 H), 2.91 (1 H), 3.41 (1 H), 3.77 (1 H), 4.24 (1 H), 4.66 (1 H), 7.15 (1 H), 7.28 (1 H), 7.65 (1 H), 7.8 (1 H), 8.14 (2 H), 8.28 (1 H), 8.68 (1 H), 8.97 (1 H).    | LCMS (ESI+) calcd for C <sub>25</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 430.22; found: 430.22               |
| ER-898560 | <br><chem>C21H19N5O2</chem>     | 373.41 | 0.0380 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-2-yl)morpholine-2-carboxamide          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.38 (3 H), 2.76 (1 H), 2.90 (1 H), 3.41 (1 H), 3.76 (1 H), 4.23 (1 H), 4.65 (1 H), 7.02 (1 H), 7.28 (1 H), 7.66 (1 H), 7.96 (2 H), 8.13 (1 H), 8.68 (1 H), 8.97 (1 H).               | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 374.16; found: 374.16               |
| ER-898561 | <br><chem>C22H21N5O2</chem>     | 387.44 | 0.0530 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(6-methylpyridin-2-yl)morpholine-2-carboxamide  | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) 1.39 (3 H), 2.44 (1 H), 2.76 (1 H), 2.90 (1 H), 3.41 (1 H), 3.76 (1 H), 4.23 (1 H), 4.65 (1 H), 7.02 (1 H), 7.28 (1 H), 7.66 (1 H), 7.96 (2 H), 8.13 (1 H), 8.68 (1 H), 8.97 (1 H).   |                                                                                                                                              |
| ER-898562 | <br><chem>C20H19N5O3</chem>    | 377.40 | 0.1570 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(5-methylisoxazol-3-yl)morpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) 1.35 (3 H), 2.40 (3 H), 2.71 (1 H), 2.86 (1 H), 3.32 (1 H), 3.80 (1 H), 4.16 (1 H), 4.56 (1 H), 6.68 (1 H), 7.10 (1 H), 7.54 (1 H), 8.04 (1 H), 8.47 (1 H), 8.99 (1 H), 9.09 (1 H). | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 378.15; found: 378.1                |
| ER-898563 | <br><chem>C18H16N4F3O2</chem> | 378.35 | 0.0180 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2,2,2-trifluoroethyl)morpholine-2-carboxamide  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) 1.37 (3 H), 2.76 (2 H), 3.33 (1 H), 3.82 (1 H), 3.99 (2 H), 4.15 (1 H), 4.53 (1 H), 7.00 (1 H), 7.12 (1 H), 7.56 (1 H), 8.07 (1 H), 8.49 (1 H), 9.11 (1 H).                         | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>17</sub> F <sub>3</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 378.15; found: 380.3 |

FIG. 6SSS

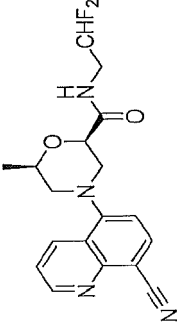
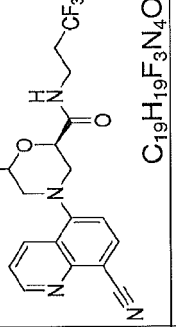
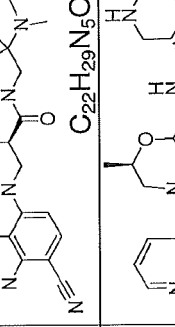
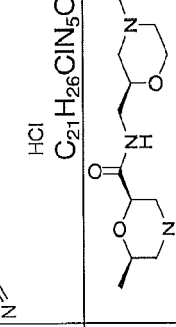
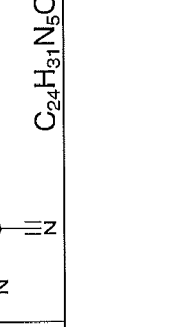
|           |                                                                                       |        |        |        |                                                                                                             |                                                                                                                                                                                                                                                                                                                              |                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| ER-898564 |    | 360.36 | 0.3330 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2,2-difluoroethyl)-6-methylmorpholine-2-carboxamide                     | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) $\delta$ ppm 1.31 (3 H), 2.38 (2 H), 2.70 (3 H), 3.28 (1 H), 3.56 (2 H), 3.77 (1 H), 4.09 (1 H), 4.42 (1 H), 7.07 (1 H), 7.52 (1 H), 8.03 (1 H), 8.45 (1 H), 9.07 (1 H).                                                                                                         | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>18</sub> F <sub>2</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 361.14; found: 361.1  |
| ER-898565 |    | 392.38 | 0.0340 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2,2,2-trifluoroethyl)-6-methylmorpholine-2-carboxamide                  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) $\delta$ ppm 1.31 (3 H), 2.38 (2 H), 2.70 (3 H), 3.28 (1 H), 3.56 (2 H), 3.77 (1 H), 4.09 (1 H), 4.42 (1 H), 7.07 (1 H), 7.52 (1 H), 8.03 (1 H), 8.45 (1 H), 9.07 (1 H).                                                                                                         | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>19</sub> F <sub>3</sub> N <sub>4</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 393.15; found: 393.25 |
| ER-898566 |    | 395.50 | 0.0030 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(dimethylamino)-6-methylpropyl)-6-methylmorpholine-2-carboxamide      | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) $\delta$ ppm 1.03 (6 H), 1.35 (3H), 2.24 (6 H), 2.75 (2 H), 3.23 (2 H), 3.31 (1 H), 3.77 (1 H), 3.83 (1 H), 4.11 (1 H), 4.45 (1 H), 7.10 (1 H), 7.54 (1 H), 8.05 (1 H), 8.50 (1 H), 9.09 (1 H).                                                                                  | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 396.24; found: 397.56                |
| ER-898694 |   | 431.92 | 0.0020 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((S)-morpholin-2-ylmethyl)morpholine-2-carboxamide hydrochloride         | <sup>1</sup> H NMR (d6 DMSO) $\delta$ ppm 9.2 (br s 1H), 9.02 (dd, 1H), 8.56 (dd, 1H), 8.21 (d, 1H), 7.97 (d, 1H), 7.65 (dd, 1H), 7.21 (d, 1H), 4.39 (dd, 1H), 4.02 (m, 1H), 3.89 (m, 1H), 3.73 (m, 1H), 3.65 (m, 1H), 3.50 (m, 1H), 3.30 (m, 2H), 3.20-3.08 (m, 4H), 2.91 (m, 1H), 2.74 (t, 1H), 2.63 (m, 1H), 1.20 (d, 3H) | (ESI+) calcd. For: C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>3</sub> 395.5 found 396.4 (m+1)                                      |
| ER-898707 |  | 469.54 | 0.0050 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(((S)-4-methylmorpholin-2-yl)methyl)morpholine-2-carboxamide acetic acid | <sup>1</sup> H NMR (d4 methanol) $\delta$ ppm 8.95 (ddd, 1H), 8.62 (dd, 1H), 8.10 (d, 1H), 7.61 (d, 1H), 7.21 (d, 1H), 4.85 (s, 1H), 4.82 (d, 1H), 4.46 (dd, 1H), 4.14 (m, 1H), 3.88 (m, 1H), 3.69-3.57 (m, 3H), 3.37-3.29 (m, 3H), 2.83-2.67 (m, 3H), 2.33 (s, 3H), 2.26 (m, 1H), 1.95 (3, 3H), 1.93 (m, 1H) 1.20 (d, 3H)   | (ESI+) calcd. For: C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>3</sub> 409.2 found 410.2 (m+1)                                      |

FIG. 6TTT

|           |  |        |        |        |                                                                                                    |                                                                                                                                                                                                                                                                   |                                                                                                                                  |
|-----------|--|--------|--------|--------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| ER-898914 |  | 342.37 | 0.0310 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-fluoroethyl)-6-methylmorpholine-2-carboxamide                | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm<br>1.33 (3 H), 2.75 (2 H), 3.32 (1 H), 3.65 (2 H), 3.82 (1 H), 4.12 (1 H), 4.48 (2 H), 4.61 (1 H), 7.03 (1 H), 7.10 (1 H), 7.55 (1 H), 8.06 (1 H), 8.49 (1 H), 9.10 (1 H).                         | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>19</sub> FN <sub>4</sub> O <sub>2</sub> (M+H+): 343.15; found: 343.06               |
| ER-898915 |  | 356.40 | 0.0374 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(3-fluoropropyl)-6-methylmorpholine-2-carboxamide               | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm<br>1.33 (3 H), 1.97 (2 H), 2.71 (2 H), 3.30 (1 H), 3.47 (2 H), 3.81 (1 H), 4.10 (1 H), 4.42 (1 H), 4.49 (1 H), 4.61 (1 H), 6.88 (1 H), 7.08 (1 H), 7.53 (1 H), 8.03 (1 H), 8.47 (1 H), 9.07 (1 H). | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>21</sub> FN <sub>4</sub> O <sub>2</sub> (M+H+): 357.17; found: 357.26               |
| ER-898916 |  | 420.43 | 0.0584 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1,1,1-trifluoropropan-2-yl)morpholine-2-carboxamide            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm<br>1.37 (6 H), 2.73 (2 H), 3.31 (1 H), 3.31 (1 H), 4.12 (1 H), 4.72 (1 H), 6.74 (1 H), 7.10 (1 H), 7.55 (1 H), 8.05 (1 H), 8.47 (1 H), 9.09 (1 H).                                                 | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>19</sub> F <sub>3</sub> N <sub>4</sub> O <sub>2</sub> (M+H+): 393.15; found: 393.15 |
| ER-898917 |  | 420.43 | 0.4860 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1,1,1-trifluoropropan-2-yl)morpholine-2-carboxamide            | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm<br>1.01 (6 H), 1.35 (3 H), 2.21 (1 H), 2.73 (2 H), 3.32 (1 H), 3.85 (1 H), 4.14 (1 H), 4.51 (2 H), 6.83 (1 H), 7.11 (1 H), 7.54 (1 H), 8.05 (1 H), 8.48 (1 H), 9.09 (1 H).                         | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>23</sub> F <sub>3</sub> N <sub>4</sub> O <sub>2</sub> (M+H+): 421.18; found: 421.18 |
| ER-898918 |  | 390.45 | 0.0321 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1,3-dimethyl-1H-pyrazol-5-yl)-6-methylmorpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm<br>1.41 (3 H), 2.24 (3 H), 2.76 (1 H), 2.89 (1 H), 3.35 (1 H), 3.70 (3 H), 3.86 (1 H), 4.20 (1 H), 4.62 (1 H), 6.11 (1 H), 7.13 (1 H), 7.56 (1 H), 8.06 (1 H), 8.24 (1 H), 8.49 (1 H), 9.10 (1 H). | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>22</sub> N <sub>6</sub> O <sub>2</sub> (M+H+): 391.18; found: 391.27                |

FIG. 6UUU

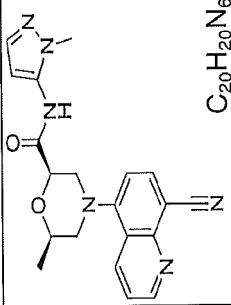
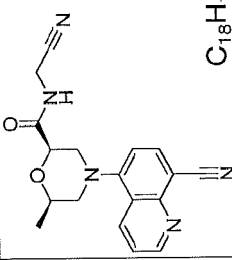
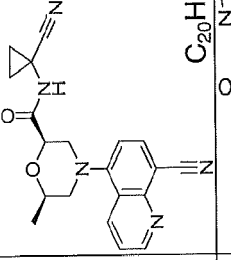
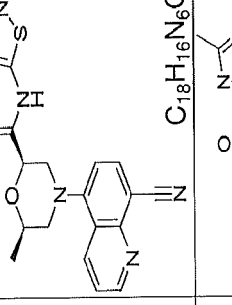
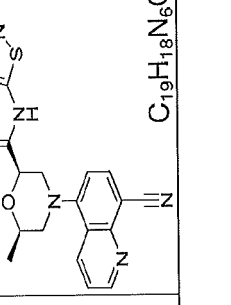
|           |                                                                                                                   |        |        |        |                                                                                                      |                                                                                                                                                                                                                                                                |                                                                                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------|--------|--------|--------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| ER-898919 | <br><chem>C20H20N6O2</chem>    | 376.42 | 0.0137 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(1-methyl-1H-pyrazol-5-yl)morpholine-2-carboxamide       | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm 1.41 (3 H), 2.77 (1 H), 2.91 (1 H), 3.37 (1 H), 3.79 (3 H), 3.88 (1 H), 4.22 (1 H), 4.64 (1 H), 6.32 (1 H), 7.14 (1 H), 7.46 (1 H), 7.57 (1 H), 8.07 (1 H), 8.30 (1 H), 8.50 (1 H), 9.11 (1 H). | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>20</sub> N <sub>6</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 377.17; found: 377.28   |
| ER-898920 | <br><chem>C20H20N6O2</chem>    | 335.37 | 0.0450 | > 10.0 | (2R,6R)-N-(cyanomethyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                    | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) 1.35 (3 H), 2.70 (1 H), 2.81 (1 H), 3.32 (1 H), 3.79 (1 H), 4.14 (1 H), 4.27 (2 H), 4.52 (1 H), 7.11 (2 H), 7.56 (1 H), 8.06 (1 H), 8.47 (1 H), 9.10 (1 H).                                           | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>17</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 336.14; found: 336.14   |
| ER-898921 | <br><chem>C18H17N5O2</chem>    | 361.40 | 0.0870 | > 10.0 | (2R,6R)-N-(1-cyanocyclopropyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide             | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm 1.34 (5 H), 1.62 (2 H), 2.68 (1 H), 2.80 (1 H), 3.31 (1 H), 3.79 (1 H), 4.11 (1 H), 4.46 (1 H), 7.11 (1 H), 7.16 (1 H), 7.11 (1 H), 8.06 (1 H), 8.46 (1 H), 9.10 (1 H).                         | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 362.16; found: 362.15   |
| ER-898922 | <br><chem>C20H19N5O2</chem>   | 380.43 | 0.0650 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(1,2,4-thiadiazol-5-yl)morpholine-2-carboxamide          | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) □□ppm 1.42 (3 H), 2.76 (1 H), 2.95 (1 H), 3.39 (1 H), 3.87 (1 H), 4.25 (1 H), 4.78 (1 H), 7.14 (1 H), 7.59 (1 H), 8.08 (1 H), 8.39 (1 H), 8.50 (1 H), 9.22 (1 H), 10.17 (1 H).                        | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>16</sub> N <sub>6</sub> O <sub>2</sub> S (M+H <sup>+</sup> ): 381.11; found: 381.11 |
| ER-898923 | <br><chem>C19H18N6O2S</chem> | 394.46 | 0.0650 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(3-methyl-1,2,4-thiadiazol-5-yl)morpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d <sub>1</sub> ) 1.39 (3 H), 2.60 (3 H), 2.75 (1 H), 2.93 (1 H), 3.37 (1 H), 3.86 (1 H), 4.24 (1 H), 4.75 (1 H), 7.13 (1 H), 7.58 (1 H), 8.08 (1 H), 8.49 (1 H), 9.12 (1 H), 10.08 (1 H).                              | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>18</sub> N <sub>6</sub> O <sub>2</sub> S (M+H <sup>+</sup> ): 395.12; found: 395.12 |

FIG. 6VVV

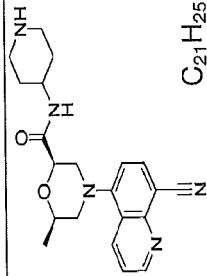
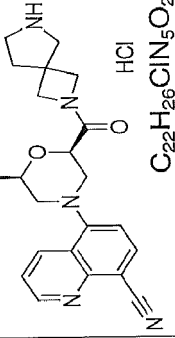
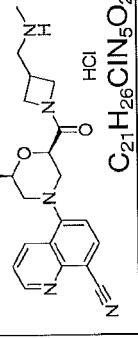
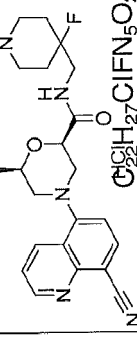
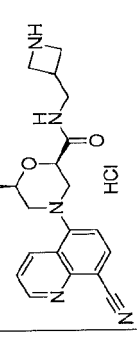
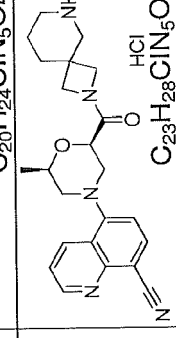
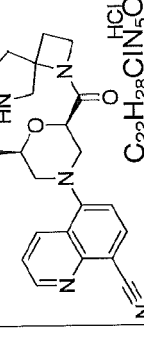
|           |                                                                                       |                         |        |        |        |                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                |
|-----------|---------------------------------------------------------------------------------------|-------------------------|--------|--------|--------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| ER-898946 |    | $C_{21}H_{25}N_5O_2$    | 379.46 | 0.0030 | 2.110  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(piperidin-4-yl)morpholine-2-carboxamide                                 | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.30-1.35 (d, 3H), 1.45-1.58 (m, 2H), 1.79-1.90 (m, 2H), 2.63-2.83 (m, 4H), 3.03-3.11 (m, 2H), 3.35-3.41 (dt, 1H), 3.65-3.71 (dt, 1H), 3.79-3.89 (m, 1H), 4.09-4.19 (m, 1H), 4.43-4.48 (dd, 1H), 7.24-7.28 (d, 1H), 7.63-7.67 (dd, 1H), 8.12-8.16 (d, 1H), 8.64-8.68 (dd, 1H), 8.96-8.99 (dd, 1H). | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 380.20; found: 380.2  |
| ER-899017 |    | $C_{22}H_{26}ClN_5O_2$  | 427.93 | 0.0160 | 1.070  | 5-((2R,6R)-2-methyl-6-(2,6-diazaspiro[3.4]octane-2-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride        | δ 1.15 (d, 3H), 1.22 (t, 2H), 2.10 (m, 2H), 2.61 (m, 1H), 2.84 (m, 1H), 3.08 (m, 2H), 3.12 (m, 1H), 3.40 (m, 1H), 3.79 (dd, 1H), 3.89 (dd, 1H), 3.96 (m, 1H), 4.25 (dd, 1H), 4.33 (dd, 1H), 4.49 (t, 1H), 7.21 (d, 1H), 7.65 (dd, 1H), 8.21 (d, 1H), 8.53 (d, 1H), 8.62 (br s, 2H), 9.01 (d, 1H) (br s, 2H), 9.01 (d, 1H)                                  | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 392.40; found: 392.33 |
| ER-899018 |    | $C_{21}H_{26}ClN_5O_2$  | 415.92 | 0.0220 | >10.0  | 5-((2R,6R)-2-methyl-6-(3-((methylamino)methyl)azetidine-1-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride | δ 1.14 (d, 3H), 2.49 (m, 2H), 2.63 (s, 3H), 2.86 (m, 2H), 3.12 (m, 2H), 3.32 (m, 1H), 3.40 (m, 1H), 3.68 (m, 1H), 3.94 (m, 2H), 4.15 (m, 1H), 4.38 (m, 1H), 4.47 (m, 1H), 7.21 (d, 1H), 7.65 (dd, 1H), 8.21 (d, 1H), 8.53 (d, 1H), 8.62 (br s, 2H), 9.01 (d, 1H)                                                                                           |                                                                                                                                |
| ER-899019 |    | $C_{22}H_{27}ClFN_5O_2$ | 447.94 | 0.0300 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((4-fluoropiperidin-4-yl)methyl)-6-methylmorpholine-2-carboxamide hydrochloride   | δ 1.17 (d, 3H), 1.62 (m, 2H), 1.74 (m, 2H), 2.60 (m, 1H), 2.89 (m, 3H), 3.18 (m, 1H), 3.32 (m, 3H), 3.42 (d, 1H), 3.75 (t, 1H), 3.97 (m, 2H), 4.17 (dd, 1H), 4.49 (t, 1H), 7.21 (d, 1H), 7.65 (dd, 1H), 8.21 (d, 1H), 8.53 (d, 1H), 8.70 (br s, 2H), 9.01 (d, 1H)                                                                                          |                                                                                                                                |
| ER-899020 |   | $C_{20}H_{24}ClN_5O_2$  | 401.90 | 0.0290 | >10.0  | (2R,6R)-N-(azetidin-3-ylmethyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride              | δ 1.21 (d, 3H), 2.63 (t, 1H), 2.76 (t, 1H), 2.87 (m, 1H), 2.99 (m, 1H), 3.28 (m, 2H), 3.33 (d, 1H), 3.54 (m, 1H), 3.68 (m, 2H), 3.85 (m, 1H), 4.01 (m, 1H), 4.38 (m, 2H), 7.23 (d, 1H), 7.65 (dd, 1H), 8.21 (m, 2H), 8.55 (d, 1H), 9.01 (d, 1H)                                                                                                            |                                                                                                                                |
| ER-899021 |  | $C_{23}H_{28}ClN_5O_2$  | 441.96 | 0.0230 | 11.800 | 5-((2R,6R)-2-methyl-6-(2,6-diazaspiro[3.5]nonane-2-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride        | δ 1.16 (d, 3H), 1.35 (d, 1H), 1.62 (m, 2H), 1.75 (m, 2H), 2.60 (m, 1H), 2.88 (m, 2H), 3.18 (m, 2H), 3.33 (m, 2H), 3.42 (d, 1H), 3.75 (t, 1H), 3.97 (m, 2H), 4.16 (dd, 1H), 4.49 (t, 1H), 7.21 (d, 1H), 7.65 (dd, 1H), 8.21 (d, 1H), 8.53 (d, 1H), 8.70 (br s, 2H), 9.01 (d, 1H)                                                                            |                                                                                                                                |
| ER-899023 |  | $C_{22}H_{28}ClN_5O_2$  | 427.93 | 0.0360 | 11.250 | 5-((2R,6R)-2-methyl-6-(1,6-diazaspiro[3.4]octane-1-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride        | δ 1.15 (d, 3H), 2.08 (m, 1H), 2.30 (m, 1H), 2.44 (m, 1H), 2.61 (t, 1H), 2.87 (m, 1H), 3.19 (m, 2H), 3.33 (m, 2H), 3.41 (m, 2H), 3.81 (m, 1H), 3.96 (m, 1H), 4.18 (m, 2H), 4.46 (dd, 1H), 7.21 (d, 1H), 7.65 (dd, 1H), 8.21 (d, 1H), 8.53 (d, 1H), 8.70 (br s, 2H), 9.01 (d, 1H)                                                                            |                                                                                                                                |

FIG. 6WWW

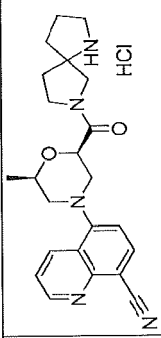
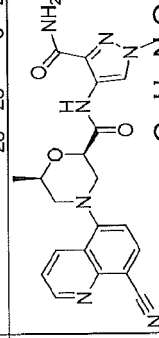
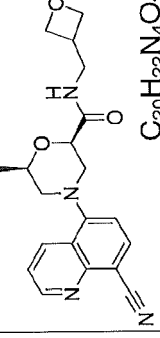
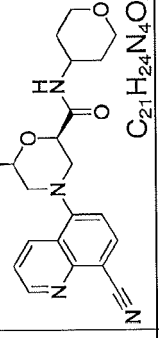
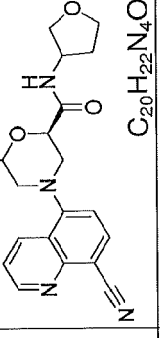
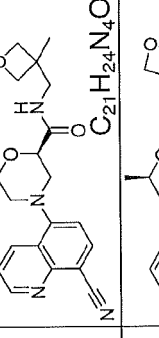
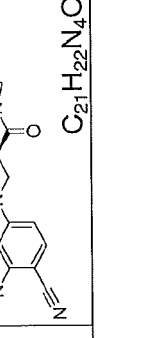
|           |                                                                                                                                                        |        |        |       |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                   |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-899024 | <br>C <sub>23</sub> H <sub>28</sub> ClN <sub>5</sub> O <sub>2</sub> | 441.96 | 0.2050 | 2.190 | 5-((2R,6R)-2-methyl-6-((1,7-diazaspiro[4.4]nonane-7-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride | $\delta$ 1.15, (d, 3H), 1.87, (m, 4H), 2.63, (m, 1H), 2.95, (m, 1H), 3.09, (m, 2H), 3.23, (m, 2H), 3.35, (m, 4H), 3.60, (m, 1H), 4.00, (m, 2H), 4.58, (t, 1H), 7.23, (d, 1H), 7.63, (dd, 1H), 8.21, (d, 1H), 8.55, (d, 1H), 9.01, (d, 1H)                                                                                                                                                            |                                                                                                                   |
| ER-899025 | <br>C <sub>21</sub> H <sub>21</sub> N <sub>7</sub> O <sub>3</sub>   | 419.44 | 0.0510 | >10.0 | (2R,6R)-N-(3-carbamoyl-1-methyl-1H-pyrazol-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide     | $\delta$ 1.23, (d, 3H), 2.67, (m, 1H), 2.83, (t, 1H), 3.38, (d, 1H), 3.62, (d, 1H), 3.84, (s, 3H), 4.12, (m, 1H), 4.61, (d, 1H), 7.25, (d, 1H), 7.42, (s, 1H), 7.66, (m, 2H), 8.18, (s, 1H), 8.22, (d, 1H), 8.59, (d, 1H), 9.02, (d, 1H), 10.59, (s, 1H)                                                                                                                                             |                                                                                                                   |
| ER-899121 | <br>C <sub>21</sub> H <sub>21</sub> N <sub>7</sub> O <sub>3</sub>   | 366.42 | 0.0200 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(oxetan-3-ylmethyl)morpholine-2-carboxamide                        | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) $\delta$ ppm: 1.28-1.33 (d, 3H), 2.67-2.81 (m, 2H), 3.14-3.23 (m, 1H), overlapping with signal of CD <sub>3</sub> OD, 3.32-3.39 (m, 1H), 3.48-3.53 (d, 2H), 3.64-3.70 (m, 1H), 4.05-4.15 (m, 1H), 4.38-4.48 (m, 3H), 4.69-4.76 (m, 2H), 7.21-7.25 (d, 1H), 7.60-7.65 (dd, 1H), 8.10-8.14 (d, 1H), 8.61-8.66 (dd, 1H), 8.94-8.97 (dd, 1H).           | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 367.17; found: 367.29 |
| ER-899122 | <br>C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub>   | 380.45 | 0.0080 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(tetrahydro-2H-pyran-4-yl)morpholine-2-carboxamide                 | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) $\delta$ ppm: 1.28-1.35 (d, 3H), 1.55-1.70 (m, 2H), 1.71-1.84 (m, 2H), 2.65-2.83 (m, 2H), 3.32-3.41 (m, 1H), 3.41-3.51 (m, 2H), 3.62-3.72 (m, 1H), 3.88-4.00 (m, 3H), 4.05-4.18 (m, 1H), 4.41-4.48 (dd, 1H), 7.23-7.28 (d, 1H), 7.62-7.67 (dd, 1H), 8.13-8.16 (d, 1H), 8.63-8.68 (dd, 1H), 8.96-9.00 (dd, 1H).                                      | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 381.19; found: 381.3  |
| ER-899123 | <br>C <sub>21</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub>  | 366.42 | 0.0655 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(tetrahydrofuran-3-yl)morpholine-2-carboxamide                     | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) $\delta$ ppm: 1.30-1.34 (d, 3H), 1.85-1.96 (m, 1H), 2.17-2.30 (m, 1H), 2.67-2.76 (t, 1H), 2.76-2.85 (t, 1H), 3.34-3.41 (d, 1H), 3.60-3.70 (m, 2H), 3.75-3.82 (q, 1H), 3.82-3.89 (m, 1H), 3.90-3.98 (q, 1H), 4.09-4.18 (m, 1H), 4.40-4.49 (m, 2H), 7.24-7.28 (d, 1H), 7.62-7.67 (dd, 1H), 8.12-8.16 (d, 1H), 8.63-8.68 (dd, 1H), 8.96-8.99 (dd, 1H). | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> (M+H+): 367.17; found: 367.25 |
| ER-899131 | <br>C <sub>21</sub> H <sub>24</sub> N <sub>4</sub> O <sub>3</sub> | 366.42 | 0.0423 | >10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(3-methyloxetan-3-yl)methylmorpholine-2-carboxamide                | $\delta$ 1.14, (s, 3H), 1.21, (d, 3H), 2.64, (t, 1H), 2.75, (t, 1H), 3.11, (d, 2H), 3.34, (d, 1H), 3.52, (d, 1H), 4.05, (m, 1H), 4.09, (d, 2H), 4.36, (d, 2H), 4.41, (d, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 8.00, (t, 1H), 8.20, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H)                                                                                                                              |                                                                                                                   |
| ER-899132 | <br>C <sub>21</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub> | 378.43 | 0.1470 | >10.0 | 5-((2R,6R)-2-methyl-6-(2-oxa-6-azaspiro[3.3]heptane-6-carbonyl)morpholino)quinoline-8-carbonitrile             | $\delta$ 1.16, (d, 3H), 2.59, (t, 1H), 2.83, (t, 1H), 3.31, (d, 1H), 3.39, (d, 1H), 3.95, (m, 1H), 4.01, (s, 2H), 4.44, (m, 1H), 4.46, (s, 2H), 4.62, (m, 4H), 7.21, (d, 1H), 7.64, (dd, 1H), 8.20, (d, 1H), 8.52, (d, 1H), 9.00, (d, 1H)                                                                                                                                                            |                                                                                                                   |

FIG. 6XXX

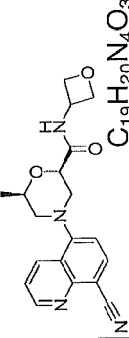
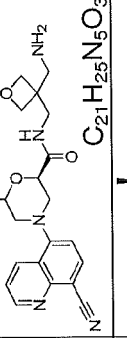
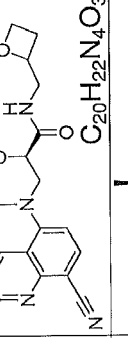
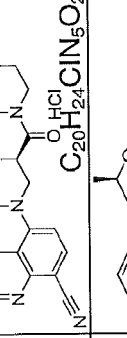
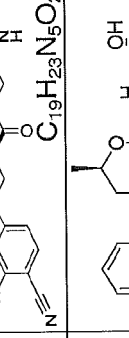
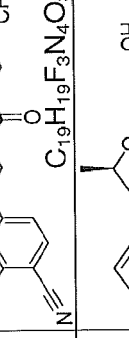
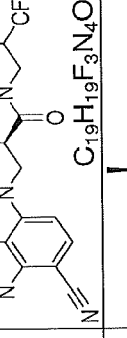
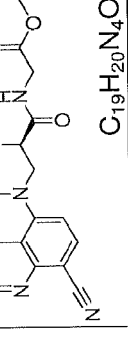
|           |                                                                                                                                                                       |        |        |        |                                                                                                           |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| ER-899133 | <br>C <sub>19</sub> H <sub>20</sub> N <sub>4</sub> O <sub>3</sub>                  | 378.43 | 0.1280 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(oxetan-3-yl)morpholine-2-carboxamide                         | δ 1.22, (d, 3H), 2.63, (t, 1H), 2.77, (t, 1H), 3.34, (d, 1H), 3.49, (d, 1H), 4.02, (m, 1H), 4.36, (d, 1H), 4.50, (m, 2H), 4.62, (m, 2H), 4.79, (m, 1H), 7.22, (d, 1H), 7.65, (dd, 1H), 8.20, (d, 1H), 8.55, (t, 1H), 9.01, (d, 1H)                                                                                      | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>20</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 354.19; found: 354.3                 |
| ER-899134 | <br>C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>3</sub>                  | 395.46 | 0.0640 | >10.0  | (2R,6R)-N-((3-(aminomethyl)oxetan-3-yl)methyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide  | δ 1.20, (d, 3H), 2.62, (m, 3H), 2.72, (t, 1H), 3.09, (m, 1H), 3.32, (m, 4H), 3.52, (d, 1H), 4.03, (m, 1H), 4.24, (m, 2H), 4.41, (d, 1H), 7.21, (d, 1H), 7.65, (dd, 1H), 8.12, (t, 1H), 8.20, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H)                                                                                      |                                                                                                                                               |
| ER-899135 | <br>C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub>                  | 366.42 | 0.2520 | >10.0  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(oxetan-2-yl)methylmorpholine-2-carboxamide                   | δ 1.20, (d, 3H), 2.28, (m, 1H), 2.53, (m, 1H), 2.63, (m, 1H), 2.75, (t, 1H), 3.28, (m, 1H), 3.34, (m, 2H), 3.53, (d, 1H), 4.02, (m, 1H), 4.39, (m, 3H), 4.69, (m, 1H), 7.22, (d, 1H), 7.65, (dd, 1H), 7.83, (m, 1H), 8.20, (d, 1H), 8.57, (d, 1H), 9.01, (d, 1H)                                                        |                                                                                                                                               |
| ER-899136 | <br>C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>3</sub>                  | 378.43 | 0.1080 | >10.0  | 5-((2R,6R)-2-methyl-6-(piperazine-1-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride            | δ 1.14, (d, 3H), 2.63, (t, 1H), 2.98, (m, 5H), 3.33, (m, 3H), 3.45, (m, 2H), 3.54, (m, 1H), 4.02, (m, 1H), 4.69, (d, 1H), 7.21, (d, 1H), 7.63, (dd, 1H), 8.21, (d, 1H), 8.57, (d, 1H), 8.75, (br, s, 2H), 9.00, (d, 1H)                                                                                                 |                                                                                                                                               |
| ER-899140 | <br>C <sub>20</sub> H <sub>22</sub> N <sub>4</sub> O <sub>2</sub>                  | 353.42 | 0.0160 | 3.271  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-(methylamino)ethyl)morpholine-2-carboxamide                | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.30-1.35 (d, 3H), 2.43 (s, 3H), 2.67-2.85 (m, 4H), 3.33-3.48 (m, 3H), 3.67-3.74 (m, 1H), 4.10-4.18 (m, 1H), 4.45-4.51 (dd, 1H), 7.25-7.28 (d, 1H), 7.63-7.68 (dd, 1H), 8.13-8.17 (d, 1H), 8.65-8.69 (dd, 1H), 8.97-9.00 (dd, 1H). Exact mass calculated: 353.4 | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 354.19; found: 354.3                 |
| ER-899151 | <br>C <sub>19</sub> H <sub>23</sub> N <sub>5</sub> O <sub>2</sub>                | 408.38 | 0.0330 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((S)-3,3,3-trifluoro-2-hydroxypropyl)morpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.30-1.35 (d, 3H), 2.66-2.83 (m, 2H), 3.32-3.42 (m, 2H), 3.58-3.65 (dd, 1H), 3.65-3.73 (m, 1H), 4.05-4.20 (m, 2H), 4.47-4.53 (dd, 1H), 7.24-7.28 (d, 1H), 7.63-7.68 (dd, 1H), 8.13-8.17 (d, 1H), 8.65-8.70 (dd, 1H), 8.96-9.00 (dd, 1H).                        | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>19</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 409.14; found: 409.24 |
| ER-899152 | <br>C <sub>19</sub> H <sub>19</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub> | 408.38 | 0.0260 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-3,3,3-trifluoro-2-hydroxypropyl)morpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.30-1.35 (d, 3H), 2.66-2.83 (m, 2H), 3.32-3.42 (m, 2H), 3.58-3.65 (dd, 1H), 3.65-3.73 (m, 1H), 4.05-4.20 (m, 2H), 4.47-4.53 (dd, 1H), 7.24-7.28 (d, 1H), 7.63-7.68 (dd, 1H), 8.13-8.17 (d, 1H), 8.65-8.70 (dd, 1H), 8.96-9.00 (dd, 1H).                        | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>19</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 409.14; found: 409.24 |
| ER-899153 | <br>C <sub>19</sub> H <sub>20</sub> N <sub>4</sub> O <sub>4</sub>                | 368.39 | 0.0400 | > 10.0 | methyl 2-((2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamido)acetate                       | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.31-1.36 (d, 3H), 2.68-2.77 (t, 1H), 2.79-2.87 (t, 1H), 3.35-3.43 (m, 1H), 3.66-3.73 (m, 4H), 3.99 (s, 2H), 4.10-4.20 (m, 1H), 4.50-4.56 (dd, 1H), 7.25-7.30 (d, 1H), 7.62-7.68 (dd, 1H), 8.12-8.18 (d, 1H), 8.64-8.70 (dd, 1H), 8.95-9.00 (dd, 1H)            | LCMS (ESI+) calcd for C <sub>19</sub> H <sub>20</sub> N <sub>4</sub> O <sub>4</sub> (M+H <sup>+</sup> ): 369.15; found: 369.19                |

FIG. 6YY

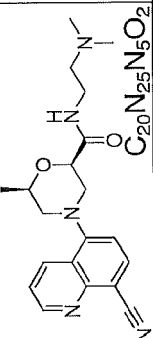
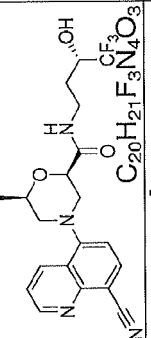
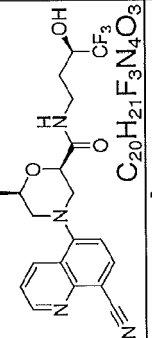
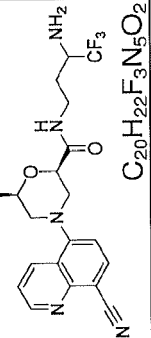
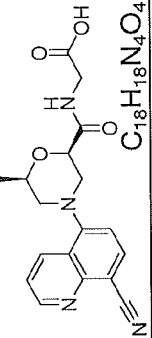
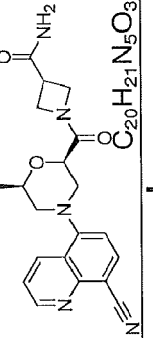
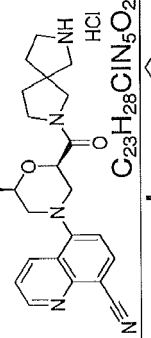
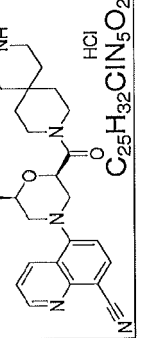
|           |                                                                                       |        |        |        |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| ER-899154 |    | 367.45 | 0.0150 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(dimethylamino)ethyl)-6-methylmorpholine-2-carboxamide                     | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.28-1.35 (d, 3H), 2.65-2.72 (t, 1H), 2.81 (s, 6H), 3.10-3.18 (t, 2H), 3.26-3.30 (m, 1H), 3.35-3.40 (d, 1H), 3.50-3.58 (m, 1H), 3.60-3.72 (m, 2H), 4.08-4.18 (m, 1H), 4.47-4.53 (dd, 1H), 7.20-7.26 (d, 1H), 7.60-7.65 (dd, 1H), 8.08-8.15 (d, 1H), 8.60-8.66 (dd, 1H), 8.94-8.98 (dd, 1H). | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>25</sub> N <sub>5</sub> O <sub>4</sub> (M+H <sup>+</sup> ): 368.20; found: 368.27                |
| ER-899159 |    | 422.40 | 0.0360 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(hydroxybutyl)morpholine-2-carboxamide                                     | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.31-1.37 (d, 3H), 1.67-1.78 (m, 1H), 1.87-1.96 (m, 1H), 2.67-2.83 (m, 2H), 3.35-3.54 (m, 3H), 3.68-3.75 (m, 1H), 3.94-4.00 (m, 1H), 4.12-4.20 (m, 1H), 4.45-4.52 (dd, 1H), 7.25-7.30 (d, 1H), 7.64-7.70 (dd, 1H), 8.13-8.19 (d, 1H), 8.66-8.70 (dd, 1H), 8.97-9.01 (dd, 1H).               | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>21</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 423.16; found: 423.19 |
| ER-899160 |    | 422.40 | 0.0290 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(hydroxybutyl)morpholine-2-carboxamide                                     | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.31-1.37 (d, 3H), 1.67-1.78 (m, 1H), 1.87-1.96 (m, 1H), 2.67-2.83 (m, 2H), 3.35-3.53 (m, 3H), 3.68-3.75 (m, 1H), 3.91-4.00 (m, 1H), 4.12-4.19 (m, 1H), 4.45-4.52 (dd, 1H), 7.25-7.30 (d, 1H), 7.63-7.69 (dd, 1H), 8.13-8.18 (d, 1H), 8.65-8.70 (dd, 1H), 8.97-9.01 (dd, 1H).               | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>21</sub> F <sub>3</sub> N <sub>4</sub> O <sub>3</sub> (M+H <sup>+</sup> ): 423.16; found: 423.2  |
| ER-899161 |    | 421.42 | 0.0350 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(2-(trifluorobutyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.31-1.36 (d, 3H), 1.53-1.63 (m, 1H), 1.90-2.00 (m, 1H), 2.68-2.83 (m, 2H), 3.16-3.23 (m, 1H), 3.35-3.52 (m, 3H), 3.67-3.74 (d, 1H), 4.09-4.19 (m, 1H), 4.46-4.51 (dt, 1H), 7.25-7.29 (dd, 1H), 7.63-7.68 (dd, 1H), 8.13-8.17 (d, 1H), 8.65-8.70 (dd, 1H), 8.97-9.00 (dd, 1H).              | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>22</sub> F <sub>3</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 422.18; found: 422.21 |
| ER-899162 |   | 354.36 | 0.4280 | > 10.0 | 2-((2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamido)acetic acid                                 | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.30-1.35 (d, 3H), 2.68-2.76 (dd, 1H), 2.79-2.88 (dd, 1H), 3.35-3.42 (m, 1H), 3.66-3.73 (m, 1H), 3.92-3.97 (m, 2H), 4.11-4.20 (m, 1H), 4.49-4.55 (dd, 1H), 7.23-7.28 (d, 1H), 7.62-7.67 (dd, 1H), 8.12-8.16 (d, 1H), 8.64-8.69 (dd, 1H), 8.95-8.99 (dd, 1H).                                | LCMS (ESI+) calcd for C <sub>18</sub> H <sub>18</sub> N <sub>4</sub> O <sub>4</sub> (M+H <sup>+</sup> ): 355.14; found: 355.22                |
| ER-899191 |  | 379.42 | 0.0920 | > 10.0 | 1-((2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamido)azetidine-3-carboxamide                     | δ 1.15, (d, 3H), 2.60, (t, 1H), 2.84, (t, 1H), 3.29, (m, 1H), 3.41, (d, 1H), 3.83, (m, 1H), 3.94, (m, 2H), 4.29, (m, 1H), 4.39, (m, 1H), 4.49, (m, 1H), 7.02, (s, 1H), 7.21, (d, 1H), 7.44, (s, 1H), 7.64, (dd, 1H), 8.20, (d, 1H), 8.54, (d, 1H), 9.01, (d, 1H)                                                                                    |                                                                                                                                               |
| ER-899192 |  | 379.42 | 0.0780 | 0.365  | 5-((2R,6R)-2-methyl-6-(2,7-diazaspiro[4.4]nonane-2-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride    | δ 1.15, (d, 3H), 1.87, (m, 4H), 2.63, (m, 1H), 2.95, (m, 1H), 3.09, (m, 2H), 3.23, (m, 2H), 3.35, (m, 4H), 3.56, (m, 1H), 3.67, (m, 1H), 3.99, (m, 1H), 4.59, (d, 1H), 7.22, (d, 1H), 7.64, (m, 1H), 8.21, (d, 1H), 8.55, (d, 1H), 9.01, (d, 1H), 9.21, (br s, 2H)                                                                                  |                                                                                                                                               |
| ER-899193 |  | 470.01 | 0.0192 | 0.087  | 5-((2R,6R)-2-methyl-6-(3,9-diazaspiro[5.5]undecane-3-carbonyl)morpholino)quinoline-8-carbonitrile hydrochloride  | δ 1.15, (d, 3H), 2.65, (t, 1H), 2.97, (t, 1H), 3.03, (m, 2H), 3.18, (m, 1H), 3.35, (m, 2H), 3.64, (m, 2H), 3.79, (m, 2H), 4.00, (m, 10H), 4.74, (d, 1H), 7.23, (d, 1H), 7.63, (dd, 1H), 8.22, (d, 1H), 8.55, (d, 1H), 9.01, (d, 1H), 9.22, (br s, 2H)                                                                                               |                                                                                                                                               |

FIG. 6ZZZ

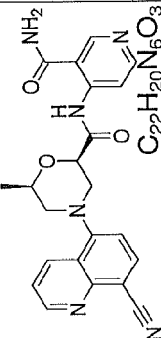
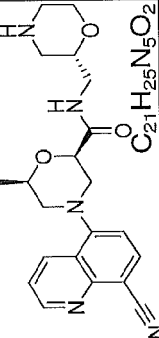
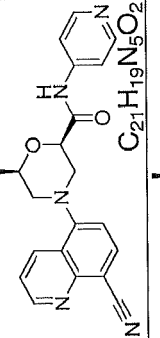
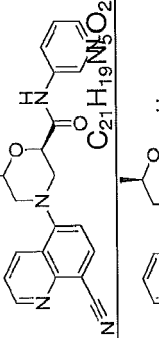
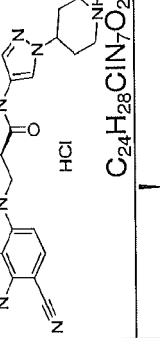
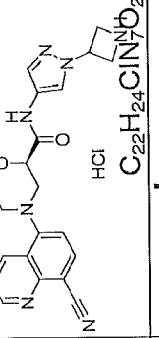
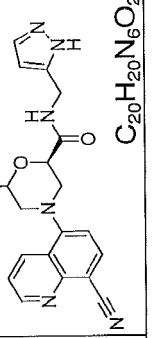
|           |                                                                                       |        |        |        |                                                                                                                       |                                                                                                                                                                                                                                                                                                                            |                                                                |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| ER-899196 |    | 416.44 | 0.0640 | > 10.0 | (2R,6R)-N-(3-carbamoylpyridin-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                         | $\delta$ 1.26, (d, 3H), 2.68, (t, 1H), 2.89, (t, 1H), 3.39, (d, 1H), 3.62, (d, 1H), 4.14, (m, 1H), 4.66, (d, 1H), 7.26, (d, 1H), 7.67, (dd, 1H), 7.96, (s, 1H), 8.22, (d, 1H), 8.39, (m, 1H), 8.49, (ab q, 2H), 8.60, (d, 1H), 8.91, (s, 1H), 9.02, (d, 1H), 12.58, (s, 1H)                                                | LCMS (ESI+) calcd for C21H25N5O3 (M+H+): 396.20; found: 396.33 |
| ER-899278 |    | 395.46 | 0.0020 | 10.207 | (2R,6R)-N-(1-(8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-4-yl)morpholine-2-carboxamide                                 | $\delta$ 1.24, (d, 3H), 2.68, (t, 1H), 2.96, (t, 1H), 3.38, (d, 1H), 3.58, (d, 1H), 4.09, (m, 1H), 4.58, (d, 1H), 7.26, (d, 1H), 7.63, (d, 2H), 7.66, (dd, 1H), 8.22, (d, 1H), 8.40, (d, 2H), 8.60, (d, 1H), 9.02, (d, 1H), 10.15, (s, 1H)                                                                                 |                                                                |
| ER-899282 |    | 373.41 | 0.0150 | > 10.0 | (2R,6R)-N-(1-(8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-4-yl)morpholine-2-carboxamide                                 | $\delta$ 1.25, (d, 3H), 2.68, (t, 1H), 2.95, (t, 1H), 3.39, (d, 1H), 3.59, (d, 1H), 4.09, (m, 1H), 4.59, (d, 1H), 7.26, (d, 1H), 7.32, (q, 1H), 7.66, (dd, 1H), 8.03, (d, 1H), 8.22, (d, 1H), 8.25, (d, 1H), 8.60, (d, 1H), 8.78, (s, 1H), 9.02, (d, 1H), 9.98, (s, 1H)                                                    |                                                                |
| ER-899283 |    | 373.41 | 0.0680 | > 10.0 | (2R,6R)-N-(1-(8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-4-yl)morpholine-2-carboxamide                                 | $\delta$ 1.24, (d, 3H), 2.07, (m, 5H), 2.65, (t, 1H), 2.84, (t, 1H), 2.97, (m, 2H), 3.37, (d, 1H), 3.57, (d, 1H), 4.07, (m, 1H), 4.40, (m, 1H), 4.51, (d, 1H), 7.24, (d, 1H), 7.58, (s, 1H), 7.66, (dd, 1H), 7.93, (s, 1H), 8.21, (d, 1H), 8.58, (d, 1H), 8.69, (br s, 1H), 8.89, (br s, 1H), 9.02, (d, 1H), 9.90, (s, 1H) |                                                                |
| ER-899285 |   | 481.99 | 0.0110 | 1.264  | (2R,6R)-N-(1-(azetidin-3-yl)-1H-pyrazol-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride | $\delta$ 1.24, (d, 3H), 2.66, (t, 1H), 2.84, (t, 1H), 3.37, (d, 1H), 3.57, (d, 1H), 4.07, (m, 1H), 4.25, (m, 3H), 4.54, (d, 1H), 5.36, (m, 1H), 7.24, (d, 1H), 7.66, (dd, 1H), 7.75, (s, 1H), 8.10, (s, 1H), 8.22, (d, 1H), 8.59, (d, 1H), 9.02, (d, 1H), 9.13, (br s, 2H), 9.98, (s, 1H)                                  |                                                                |
| ER-899286 |  | 453.93 | 0.0480 | 1.071  | (2R,6R)-N-(1-(8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-4-yl)morpholine-2-carboxamide hydrochloride                   | $\delta$ 1.19, (d, 3H), 2.63, (t, 1H), 2.77, (t, 1H), 3.34, (d, 1H), 3.54, (d, 1H), 4.01, (m, 1H), 4.26, (m, 2H), 4.40, (d, 1H), 6.06, (s, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 8.08, (m, 1H), 8.20, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H), 12.51, (s, 1H)                                                                  |                                                                |
| ER-899287 |  | 376.42 | 0.0300 | > 10.0 | (2R,6R)-N-(1H-pyrazol-5-yl)methyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                          | $\delta$ 1.19, (d, 3H), 2.63, (t, 1H), 2.77, (t, 1H), 3.34, (d, 1H), 3.54, (d, 1H), 4.01, (m, 1H), 4.26, (m, 2H), 4.40, (d, 1H), 6.06, (s, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 8.08, (m, 1H), 8.20, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H), 12.51, (s, 1H)                                                                  |                                                                |

FIG. 6A AAA

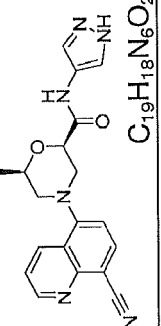
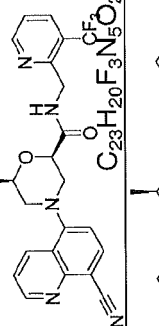
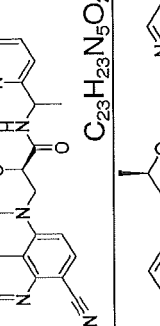
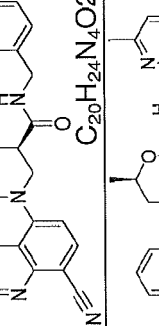
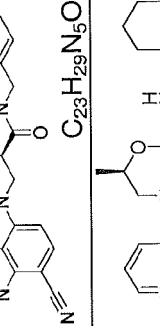
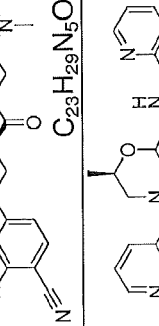
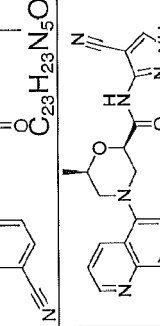
|           |                                                                                       |        |        |        |                                                                                                               |                                                                                                                                                                                                                                                                                                                         |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ER-899288 |    | 376.42 | 0.1460 | > 10.0 | (2R,6R)-N-(1H-pyrazol-4-yl)methyl-4-((8-cyanoquinolin-5-yl)methyl)-6-methylmorpholine-2-carboxamide           | $\delta$ 1.25, (d, 3H), 2.66, (t, 1H), 2.86, (t, 1H), 3.37, (d, 1H), 3.58, (d, 1H), 4.07, (m, 1H), 4.50, (d, 1H), 7.24, (d, 1H), 7.67, (dd, 1H), 7.72, (m, 1H), 8.21, (d, 1H), 8.58, (d, 1H), 9.01, (d, 1H), 9.80, (s, 1H), 12.55, (s, 1H)                                                                              |
| ER-899289 |    | 455.44 | 0.0480 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(3-(trifluoromethyl)pyridin-2-yl)methyl)morpholine-2-carboxamide | $\delta$ 1.23, (d, 3H), 2.67, (t, 1H), 2.80, (t, 1H), 3.37, (d, 1H), 3.56, (d, 1H), 4.07, (m, 1H), 4.49, (d, 1H), 4.57, (m, 2H), 7.23, (d, 1H), 7.51, (m, 1H), 7.66, (dd, 1H), 8.13, (d, 1H), 8.21, (d, 1H), 8.28, (t, 1H), 8.58, (d, 1H), 8.78, (d, 1H), 9.01, (d, 1H)                                                 |
| ER-899290 |    | 401.47 | 0.0550 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(1-(pyridin-2-yl)ethyl)morpholine-2-carboxamide                  | $\delta$ 1.22, (d, 3H), 1.35, (d, 3H), 2.67, (t, 1H), 2.78, (m, 1H), 3.34, (m, 1H), 3.53, (t, 1H), 4.05, (m, 1H), 4.44, (t, 1H), 4.98, (t, 1H), 7.23, (m, 2H), 7.34, (t, 1H), 7.65, (dd, 1H), 7.73, (t, 1H), 8.15, (m, 1H), 8.20, (t, 1H), 8.49, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H)                                  |
| ER-899291 |    | 387.44 | 0.0530 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(pyridin-2-yl)methyl)morpholine-2-carboxamide                    | $\delta$ 1.22, (d, 3H), 2.66, (t, 1H), 2.80, (t, 1H), 3.36, (d, 1H), 3.57, (d, 1H), 4.06, (m, 1H), 4.37, (d, 2H), 4.47, (d, 1H), 7.23, (m, 3H), 7.66, (dd, 1H), 7.71, (t, 1H), 8.21, (d, 1H), 8.40, (t, 1H), 8.45, (d, 1H), 8.57, (d, 1H), 9.01, (d, 1H)                                                                |
| ER-899292 |   | 401.47 | 0.1060 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(6-methylpyridin-2-yl)methyl)morpholine-2-carboxamide            | $\delta$ 1.22, (d, 3H), 2.39, (s, 3H), 2.66, (t, 1H), 2.80, (t, 1H), 3.36, (d, 1H), 3.57, (d, 1H), 4.05, (m, 1H), 4.32, (d, 2H), 4.47, (d, 1H), 7.01, (d, 1H), 7.07, (d, 1H), 7.24, (d, 1H), 7.59, (t, 1H), 7.65, (dd, 1H), 8.21, (d, 1H), 8.42, (t, 1H), 8.57, (d, 1H), 9.01, (d, 1H)                                  |
| ER-899293 |  | 407.52 | 0.0050 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(1-methylpiperidin-2-yl)methyl)morpholine-2-carboxamide          | $\delta$ 1.13, (m, 2H), 1.20, (d, 3H), 1.33, (m, 1H), 1.45, (m, 2H), 1.59, (m, 1H), 1.92, (m, 2H), 2.14, (s, 3H), 2.62, (m, 1H), 2.70, (m, 2H), 3.07, (m, 2H), 3.34, (d, 1H), 3.52, (d, 1H), 4.02, (m, 1H), 4.38, (d, 1H), 7.22, (d, 1H), 7.48, (br t, 1H), 7.66, (dd, 1H), 8.20, (d, 1H), 8.56, (d, 1H), 9.01, (d, 1H) |
| ER-899294 |  | 401.47 | 0.1960 | > 10.0 | (2R,6R)-4-((8-cyanoquinolin-5-yl)-6-methyl-N-(3-methylpyridin-2-yl)methyl)morpholine-2-carboxamide            | $\delta$ 1.23, (d, 3H), 2.23, (s, 3H), 2.67, (t, 1H), 2.79, (t, 1H), 3.37, (d, 1H), 3.58, (d, 1H), 4.07, (m, 1H), 4.38, (m, 2H), 4.48, (d, 1H), 7.19, (dd, 1H), 7.23, (d, 1H), 7.55, (d, 1H), 7.66, (dd, 1H), 8.21, (d, 1H), 8.28, (t, 1H), 8.33, (d, 1H), 8.58, (d, 1H), 9.01, (d, 1H)                                 |
| ER-899295 |  | 387.40 | 0.0320 | > 10.0 | (2R,6R)-N-(4-cyano-1H-pyrazol-3-yl)-4-((8-cyanoquinolin-5-yl)methyl)morpholine-2-carboxamide                  |                                                                                                                                                                                                                                                                                                                         |

FIG. 6BBBB

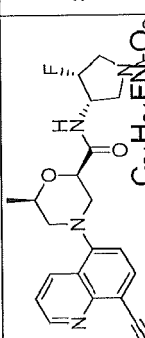
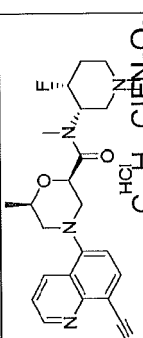
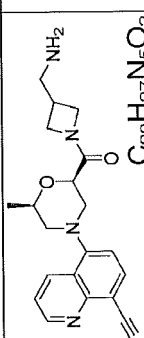
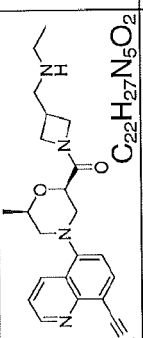
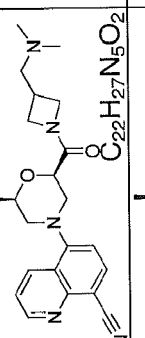
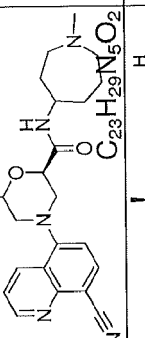
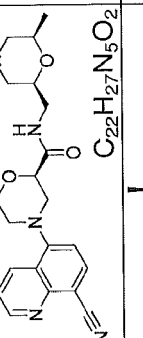
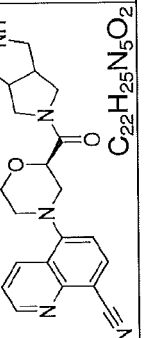
|           |                                                                                       |        |        |        |                                                                                                                        |                                                                                                                                                                                                                                                                                                                          |                                                                 |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| ER-899332 |    | 397.45 | 0.0228 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3S,4R)-4-fluoro-1-methylpyrrolidin-3-yl)-6-methylmorpholine-2-carboxamide         | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) 1.34 (3 H), 2.41 (3 H), 2.67 (2 H), 2.84 (2 H), 2.97 (1 H), 3.30 (1 H), 3.80 (1 H), 4.10 (1 H), 4.46 (1 H), 4.60 (1 H), 5.02 (1 H), 5.16 (1 H), 7.13 (2 H), 7.54 (1 H), 8.05 (1 H), 8.48 (1 H), 9.09 (1 H).                                                                  | LCMS (ESI+) calcd for C21H24FN5O3 (M+H+): 398.19; found: 398.4  |
| ER-899333 |    | 447.94 | 0.0820 | 7.352  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3S,4R)-4-fluoropiperidin-3-yl)-N,6-dimethylmorpholine-2-carboxamide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm: 1.25 (4 H), 1.94 (1 H), 2.30 (2 H), 2.75 (2 H), 2.92 (1 H), 3.21 (4 H), 3.53 (6 H), 4.15 (1 H), 7.34 (1 H), 7.74 (1 H), 8.23 (1 H), 8.82 (1 H), 9.00 (1 H).                                                                                                             | LCMS (ESI+) calcd for C22H26FN5O2 (M+H+): 412.60; found: 412.21 |
| ER-899334 |    | 365.43 | 0.1590 | > 10.0 | 5-((2R,6R)-2-(3-(aminomethyl)azetidine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile                         | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) 1.29 (3 H), 1.60 (2 H), 2.68 (1 H), 2.81 (2 H), 2.96 (1 H), 3.29 (1 H), 3.38 (1 H), 3.65 (1 H), 3.74 (1 H), 4.02 (1 H), 4.14 (2 H), 4.50 (1 H), 4.69 (1 H), 7.12 (1 H), 7.53 (1 H), 8.06 (1 H), 8.46 (1 H), 9.09 (1 H).                                                      | LCMS (ESI+) calcd for C20H23N5O3 (M+H+): 366.19; found: 366.26  |
| ER-899335 |    | 393.49 | 0.0153 | 17.740 | 5-((2R,6R)-2-(3-((ethylamino)methyl)azetidine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile                  | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) δ ppm: 1.15 (4 H), 1.22 (1 H), 1.30 (3 H), 2.70 (2 H), 2.92 (3 H), 3.29 (1 H), 3.39 (1 H), 3.65 (1 H), 3.74 (1 H), 4.02 (1 H), 4.13 (2 H), 4.52 (2 H), 7.11 (1 H), 7.53 (1 H), 8.05 (1 H), 8.45 (1 H), 9.09 (1 H).                                                           | LCMS (ESI+) calcd for C22H27N5O2 (M+H+): 394.22; found: 394.22  |
| ER-899336 |    | 393.49 | 0.0373 | > 10.0 | 5-((2R,6R)-2-(3-((dimethylamino)methyl)azetidine-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile               |                                                                                                                                                                                                                                                                                                                          | LCMS (ESI+) calcd for C22H27N5O2 (M+H+): 394.22; found: 394.22  |
| ER-899337 |  | 407.52 | 0.0030 | 7.386  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((1-methylazepan-4-yl)morpholine-2-carboxamide                             | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d1) 1.30 (3 H), 1.80 (7 H), 2.39 (3 H), 2.54 (2 H), 2.98 (3 H), 3.28 (1 H), 3.79 (1 H), 4.07 (1 H), 4.17 (1 H), 4.37 (1 H), 7.06 (2 H), 7.51 (1 H), 8.02 (1 H), 8.46 (1 H), 9.06 (1 H).                                                                                          | LCMS (ESI+) calcd for C23H29N5O2 (M+H+): 408.24; found: 408.1   |
| ER-899366 |  | 409.49 | 0.0030 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((2R,6R)-6-methylmorpholine-2-yl)methylmorpholine-2-carboxamide            | <sup>1</sup> H NMR (400 MHz, CD3OD) δ ppm: 1.11-1.14 (d, 3H), 1.32-1.35 (d, 3H), 2.32-2.47 (m, 2H), 2.69-2.88 (m, 4H), 3.20-3.28 (m, 1H), 3.32-3.42 (m, 2H), 3.55-3.75 (m, 3H), 4.11-4.19 (m, 1H), 4.47-4.53 (dd, 1H), 7.25-7.29 (d, 1H), 7.63-7.68 (dd, 1H), 8.13-8.17 (d, 1H), 8.65-8.70 (dd, 1H), 8.97-9.00 (dd, 1H). | LCMS (ESI+) calcd for C22H27N5O3 (M+H+): 410.21; found: 410.3   |
| ER-899367 |  | 391.47 | 0.1190 | 0.684  | 5-((2R,6R)-2-methyl-6-(octahydropyrrolo[3,4-c]pyrrole-2-carbonyl)morpholino)quinoline-8-carbonitrile                   | <sup>1</sup> H NMR (400 MHz, CD3OD) δ ppm: 1.25-1.30 (dd, 3H), 2.65-2.75 (t, 1H), 2.75-3.10 (m, 5H), 3.15-3.25 (m, 2H), 3.35-3.55 (m, 3H), 3.55-3.70 (m, 2H), 3.80-3.84 (m, 1H), 4.08-4.20 (m, 1H), 4.67-4.74 (d, 1H), 7.25-7.30 (d, 1H), 7.60-7.65 (dd, 1H), 8.13-8.18 (d, 1H), 8.63-8.69 (d, 1H), 8.95-8.99 (d, 1H).   | LCMS (ESI+) calcd for C22H25N5O2 (M+H+): 392.20; found: 392.36  |

FIG. 6CCCC

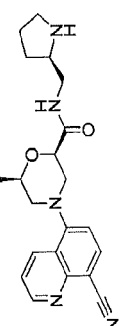
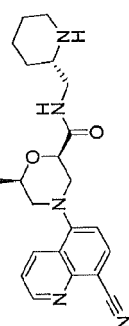
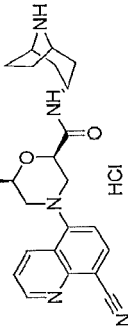
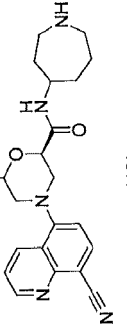
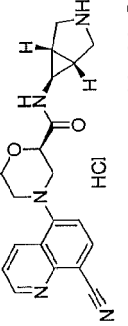
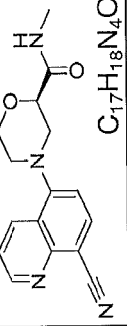
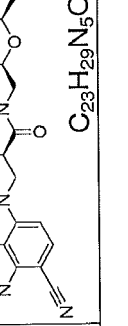
|           |                                                                                       |        |        |        |                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-899414 |    | 415.92 | 0.0130 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-pyrrolidin-2-ylmethyl)morpholine-2-carboxamide hydrochloride                | $\delta$ 1.21, (d, 3H), 1.56, (m, 1H), 1.81, (m, 2H), 1.92, (m, 1H), 2.62, (t, 1H), 2.78, (t, 1H), 3.10, (m, 2H), 3.36, (m, 4H), 3.53, (d, 1H), 4.03, (m, 1H), 4.40, (d, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 8.19, (m, 1H), 8.22, (d, 1H), 8.56, (d, 1H), 8.61, (br s, 1H), 9.02, (d, 1H), 9.20, (br s, 1H)                                                                                                                                                                                                                         |                                                                                                                   |
| ER-899415 |    | 429.95 | 0.0050 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((S)-piperidin-2-ylmethyl)morpholine-2-carboxamide hydrochloride                 | $\delta$ 1.22, (d, 3H), 1.35, (m, 2H), 1.53, (m, 1H), 1.69, (m, 3H), 2.64, (t, 1H), 2.80, (m, 2H), 3.07, (m, 1H), 3.18, (d, 1H), 3.31, (m, 3H), 4.03, (m, 1H), 4.41, (d, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 8.13, (t, 1H), 8.23, (d, 1H), 8.44, (br s, 1H), 8.57, (d, 1H), 8.66, (br s, 1H), 9.02, (d, 1H)                                                                                                                                                                                                                         |                                                                                                                   |
| ER-899416 |    | 441.96 | 0.0040 | > 10.0 | (2R,6R)-N-((1R,3R,5S)-8-azabicyclo[3.2.1]octan-3-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride | $\delta$ 1.17, (d, 3H), 1.94, (m, 4H), 2.10, (m, 4H), 2.61, (t, 1H), 2.81, (t, 1H), 3.36, (d, 1H), 3.45, (d, 1H), 3.80, (m, 1H), 3.87, (m, 2H), 4.01, (m, 1H), 4.41, (d, 1H), 7.22, (d, 1H), 7.65, (dd, 1H), 7.71, (d, 1H), 8.21, (d, 1H), 8.58, (d, 1H), 8.71, (br s, 1H), 8.89, (br s, 1H), 9.01, (d, 1H)                                                                                                                                                                                                                         |                                                                                                                   |
| ER-899417 |    | 429.95 | 0.0002 |        | (2R,6R)-N-(azepan-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride                              | $\delta$ 1.20, (d, 3H), 1.61, (m, 2H), 1.84, (m, 4H), 2.62, (t, 1H), 2.76, (t, 1H), 2.96, (m, 2H), 3.12, (m, 2H), 3.33, (d, 1H), 3.48, (d, 1H), 3.86, (m, 1H), 4.00, (m, 1H), 4.34, (d, 1H), 7.21, (d, 1H), 7.65, (dd, 1H), 7.80, (d, 1H), 8.21, (d, 1H), 8.56, (d, 1H), 8.78, (br s, 1H), 8.89, (br s, 1H), 9.01, (d, 1H)                                                                                                                                                                                                          |                                                                                                                   |
| ER-899418 |   | 413.91 | 0.0200 | > 10.0 | (2R,6R)-N-((1R,5S,6S)-3-azabicyclo[3.1.0]hexan-6-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride | $\delta$ 1.17, (d, 3H), 1.91, (m, 2H), 2.60, (t, 1H), 2.76, (m, 1H), 3.27, (m, 4H), 3.33, (d, 1H), 3.47, (d, 1H), 3.98, (m, 1H), 4.33, (d, 1H), 7.20, (d, 1H), 7.65, (dd, 1H), 8.02, (d, 1H), 8.21, (d, 1H), 8.55, (d, 1H), 8.81, (br s, 1H), 9.01, (d, 1H), 9.38, (br s, 1H)                                                                                                                                                                                                                                                       | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 311.15; found: 310.9  |
| ER-899431 |  | 310.36 | 0.0880 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N,6-dimethylmorpholine-2-carboxamide                                                        | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) $\delta$ ppm: 1.26 (t, J=7.15 Hz, 1H), 1.30 - 1.35 (m, 3H), 1.87 (br s, 1H), 2.04 (s, 1H), 2.67 (dd, J=11.92, 10.32 Hz, 1H), 2.76 (dd, J=1.94, 10.95 Hz, 1H), 2.88 (d, J=5.00 Hz, 3H), 3.30 (dt, J=11.96, 2.01 Hz, 1H), 3.81 (dt, J=12.09, 2.27 Hz, 1H), 4.02 - 4.19 (m, 2H), 4.43 (dd, J=10.74, 2.57 Hz, 1H), 6.72 (d, J=4.50 Hz, 1H), 7.08 (d, J=8.01 Hz, 1H), 7.53 (dd, J=8.56, 4.22 Hz, 1H), 8.03 (d, J=7.97 Hz, 1H), 8.48 (dd, J=8.56, 1.66 Hz, 1H), 9.07 (dd, J=4.20, 1.64 Hz, 1H) | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 311.15; found: 310.9  |
| ER-899457 |  | 423.51 | 0.0110 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(((2S,6R)-4,6-dimethylmorpholin-2-yl)methyl)-6-methylmorpholine-2-carboxamide             | <sup>1</sup> H NMR (400 MHz, CD <sub>3</sub> OD) $\delta$ ppm: 1.14-1.17 (d, 3H), 1.31-1.35 (d, 3H), 1.75-1.88 (m, 2H), 2.28-2.33 (s, 3H), 2.68-2.83 (m, 4H), 3.33-3.41 (m, 2H), 3.60-3.73 (m, 3H), 4.09-4.19 (m, 1H), 4.45-4.52 (dd, 1H), 7.24-7.29 (d, 1H), 7.62-7.68 (dd, 1H), 8.12-8.17 (d, 1H), 8.64-8.69 (dd, 1H), 8.96-9.00 (dd, 1H)                                                                                                                                                                                         | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 424.23; found: 424.28 |

FIG. 6DDDD

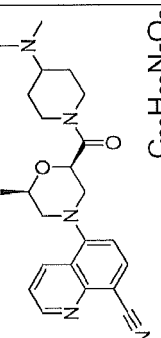
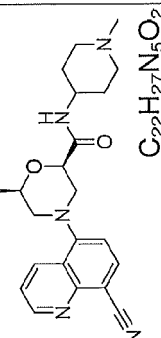
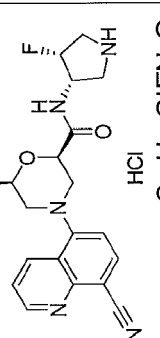
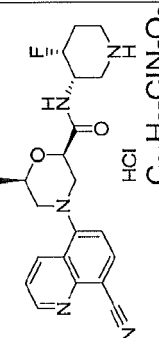
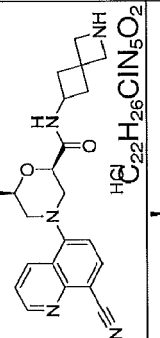
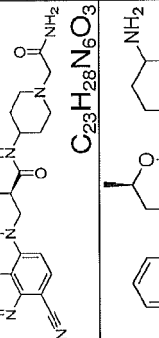
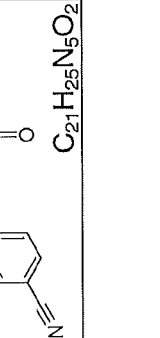
|           |                                                                                                                                                         |        |        |        |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                          |                                                                                                                   |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| ER-899459 | <br>C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>    | 407.52 | 0.0560 | > 10.0 | 5-((2R,6R)-2-(4-(dimethylamino)piperidin-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile                   | 1H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.23-1.65 (m, 5H), 1.90-2.05 (m, 2H), 2.30-2.36 (d, 6H), 2.45-2.75 (m, 3H), 3.04-3.23 (m, 2H), 3.35-3.50 (m, 2H), 4.10-4.21 (m, 1H), 4.21-4.32 (m, 1H), 4.50-4.60 (m, 1H), 4.75-4.85 (m, 1H), 7.26-7.32 (d, 1H), 7.58-7.67 (m, 1H), 8.13-8.18 (d, 1H), 8.63-8.70 (m, 1H), 8.94-9.00 (m, 1H). | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 408.24; found: 408.37 |
| ER-899464 | <br>C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub>    | 393.49 | 0.0048 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(1-methylpiperidin-4-yl)morpholine-2-carboxamide                       | 1H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.31-1.36 (d, 3H), 1.57-1.70 (m, 2H), 1.79-1.91 (m, 2H), 2.11-2.22 (m, 2H), 2.30 (s, 3H), 2.68-2.93 (m, 4H), 3.35-3.41 (m, 1H), 3.64-3.80 (m, 2H), 4.09-4.18 (m, 1H), 4.43-4.48 (m, 1H), 7.24-7.28 (d, 1H), 7.62-7.68 (dd, 1H), 8.12-8.16 (d, 1H), 8.64-8.68 (m, 1H), 8.96-8.99 (m, 1H).     | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 394.22; found: 394.3  |
| ER-899476 | <br>C <sub>22</sub> H <sub>27</sub> ClFN <sub>5</sub> O <sub>2</sub> | 419.89 | 0.0050 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3S,4R)-4-fluoropiperidin-3-yl)-6-methylmorpholine-2-carboxamide hydrochloride | δ 1.21, (d, 3H), 2.63, (t, 1H), 2.80, (t, 1H), 3.24, (m, 2H), 3.45, (m, 4H), 4.03, (m, 1H), 4.45, (t, 1H), 5.10, (m, 1H), 5.23, (m, 1H), 7.23, (d, 1H), 7.65, (dd, 1H), 8.12, (t, 1H), 8.21, (d, 1H), 8.57, (d, 1H), 9.02, (dd, 1H), 9.26, (br s, 1H), 9.59, (br s, 1H)                                                                  |                                                                                                                   |
| ER-899477 | <br>C <sub>20</sub> H <sub>23</sub> ClFN <sub>5</sub> O <sub>2</sub> | 433.91 | 0.0160 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3S,4R)-4-fluoropiperidin-3-yl)-6-methylmorpholine-2-carboxamide hydrochloride | δ 1.20, (d, 3H), 2.08, (m, 2H), 2.65, (t, 1H), 2.81, (t, 1H), 2.89, (m, 1H), 3.12, (m, 3H), 3.35, (d, 1H), 3.48, (d, 1H), 4.02, (m, 1H), 4.45, (d, 1H), 4.79, (m, 1H), 4.92, (m, 1H), 7.22, (d, 1H), 7.66, (dd, 1H), 7.99, (d, 1H), 8.22, (d, 1H), 8.57, (d, 1H), 8.99, (br s, 1H), 9.02, (d, 1H), 9.07, (br s, 1H)                      |                                                                                                                   |
| ER-899479 | <br>C <sub>21</sub> H <sub>25</sub> ClN <sub>5</sub> O <sub>2</sub> | 427.93 | 0.0070 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(2-azaspiro[3.3]heptan-6-yl)morpholine-2-carboxamide hydrochloride     | δ 1.19, (d, 3H), 1.97, (m, 1H), 2.11, (m, 1H), 2.23, (m, 2H), 2.60, (t, 1H), 2.71, (t, 1H), 3.33, (d, 1H), 3.47, (d, 1H), 3.81, (m, 2H), 3.93, (m, 2H), 4.00, (m, 1H), 4.09, (m, 1H), 4.30, (d, 1H), 7.21, (d, 1H), 7.65, (dd, 1H), 7.96, (d, 1H), 8.03, (br s, 1H), 8.21, (d, 1H), 8.55, (d, 1H), 8.77, (br s, 1H), 9.01, (d, 1H)       |                                                                                                                   |
| ER-899481 | <br>C <sub>23</sub> H <sub>28</sub> N <sub>6</sub> O <sub>3</sub>  | 436.51 | 0.0150 | > 10.0 | (2R,6R)-N-(1-(2-amino-2-oxoethyl)piperidin-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide         | 1H NMR (400 MHz, CDCl <sub>3</sub> ) δ ppm: 1.33-1.37 (d, 3H), 1.65-1.75 (m, 2H), 1.97-2.10 (m, 2H), 2.45-2.58 (m, 2H), 2.65-2.80 (m, 2H), 2.98-3.08 (m, 2H), 3.15-3.22 (s, 2H), 3.27-3.35 (d, 1H), 3.76-3.84 (d, 1H), 3.87-3.95 (m, 1H), 4.05-4.16 (m, 1H), 4.40-4.45 (dd, 1H), 5.99-6.05 (m, 1H), 6.58-6.65 (d, 1H), 7.08-7.13 (m, 1H) | LCMS (ESI+) calcd for C <sub>23</sub> H <sub>28</sub> N <sub>6</sub> O <sub>3</sub> (M+H+): 437.23; found: 437.34 |
| ER-899588 | <br>C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub>  | 379.46 | 0.1170 | 1.376  | 5-((2R,6R)-2-(4-aminopiperidin-1-carbonyl)-6-methylmorpholino)quinoline-8-carbonitrile                             | 1H NMR (400 MHz, CD <sub>3</sub> OD) δ ppm: 1.20-1.60 (m, 5H), 1.85-2.03 (m, 2H), 2.65-2.85 (m, 2H), 2.95-3.25 (m, 2H), 3.35-3.50 (m, 2H), 3.55-3.75 (m, 1H), 4.10-4.25 (m, 2H), 4.35-4.55 (m, 1H), 4.75-4.85 (m, 1H), 7.25-7.32 (d, 1H), 7.60-7.66 (m, 1H), 8.13-8.19 (d, 1H), 8.62-8.70 (m, 1H), 8.95-9.00 (m, 1H).                    | LCMS (ESI+) calcd for C <sub>21</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H+): 380.20; found: 380.33 |

FIG. 6EEEE

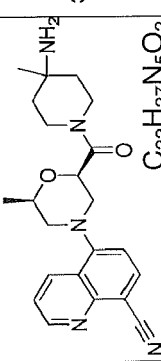
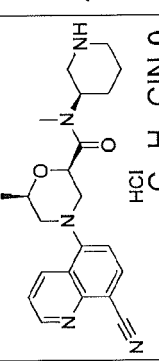
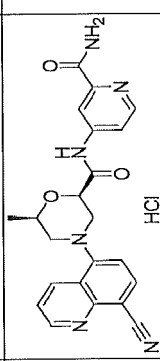
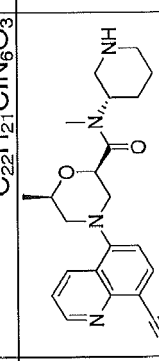
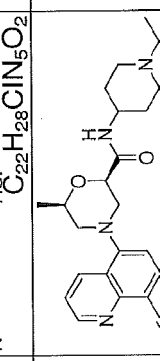
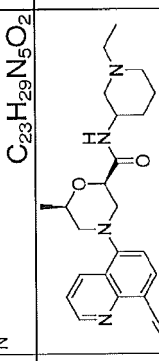
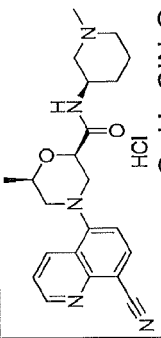
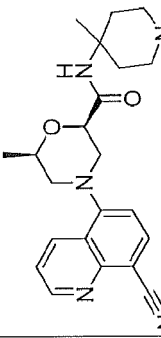
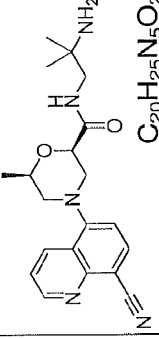
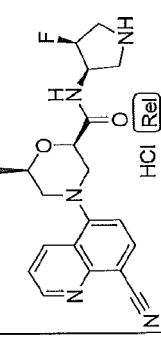
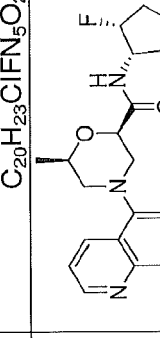
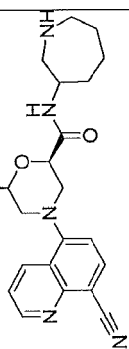
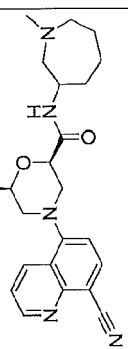
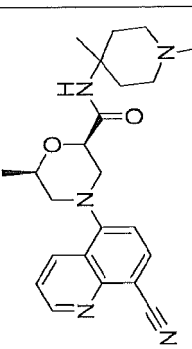
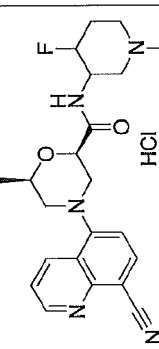
|           |                                                                                       |        |        |        |                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |
|-----------|---------------------------------------------------------------------------------------|--------|--------|--------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| ER-899608 |    | 393.49 | 0.1041 | 7.040  | 5-(2R,6R)-2-(4-amino-4-methylpiperidine-1-carbonyl)-6-methylmorpholinoquinoline-8-carbonitrile              | <sup>1</sup> H NMR (400 MHz, CD3OD) δ ppm: 1.22-1.30 (m, 6H), 1.50-1.75 (m, 4H), 2.66-2.75 (t, 1H), 3.06-3.14 (dd, 1H), 3.36-3.50 (m, 2H), 3.50-3.60 (m, 1H), 3.60-3.77 (m, 2H), 3.86-3.96 (m, 1H), 4.11-4.22 (m, 1H), 4.78-4.83 (dd, 1H), 7.27-7.32 (d, 1H), 7.60-7.65 (dd, 1H), 8.14-8.19 (d, 1H), 8.65-8.69 (d, 1H), 8.96-8.99 (dd, 1H).                                                                                                                                      | LCMS (ESI+) calcd for C22H27N5O2 (M+H+): 394.22; found: 394.3   |
| ER-899616 |    | 429.95 | 0.0450 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N,6-dimethyl-N-(R)-piperidin-3-yl)morpholine-2-carboxamide hydrochloride   | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm: 1.29 (d, 3H), 1.80-2.11 (m, 4H), 2.65-2.80 (m, 1H), 2.89-3.02 (m, 2H), 3.19 (s, 3H), 3.02-3.29 (m, 2H), 3.36-3.47 (m, 1H), 3.47-3.58 (m, 1H), 4.09-4.55 (m, 2H), 4.76-4.95 (m, 1H), 7.27-7.37 (m, 1H), 7.62-7.73 (m, 1H), 8.14-8.24 (m, 1H), 8.67-8.79 (m, 1H), 8.96-9.05 (m, 1H).                                                                                                                                              | LCMS (ESI+) calcd for C22H27N5O2 (M+H+): 394.22; found: 394.32  |
| ER-899618 |    | 452.90 | 0.0438 | > 10.0 | (2R,6R)-N-(2-carbamoylpyridin-4-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm: 1.41 (d, J=6.20 Hz, 3H), 2.78 (t, J=10.25 Hz, 1H), 2.98 (d, J=11.96, 10.68 Hz, 1H), 3.44 (dt, J=12.12, 2.06 Hz, 1H), 3.76 (d, J=12.1, 1H), 4.22-4.25 (m, 1H), 4.68 (dd, J=10.68, 2.56 Hz, 1H), 7.32 (d, J=8.12 Hz, 1H), 7.68 (dd, J=8.76, 4.27 Hz, 1H), 7.94-8.00 (m, 1H), 8.17 (d, J=7.90 Hz, 1H), 8.36 (s, 1H), 8.52 (dd, J=5.55, 0.64 Hz, 1H), 8.71 (dd, J=8.55, 1.71 Hz, 1H), 9.00 (dd, J=4.27, 1.50 Hz, 1H).               | LCMS (ESI+) calcd for C22H25N6O3 (M+H+): 417.15; found: 417.23  |
| ER-899619 |    | 429.95 | 0.4962 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N,6-dimethyl-N-(S)-piperidin-3-yl)morpholine-2-carboxamide hydrochloride   | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm: 1.29 (d, 3H), 1.76-2.12 (m, 4H), 2.68-2.77 (m, 1H), 2.84-3.01 (m, 2H), 3.06-3.29 (m, 5H), 3.32-3.62 (m, 2H), 4.12-4.29 (m, 1H), 4.46-4.62 (m, 1H), 4.79-4.85 (m, 1H), 7.23-7.37 (m, 1H), 7.61-7.73 (m, 1H), 8.15-8.20 (m, 1H), 8.67-8.73 (m, 1H), 8.99 (dd, J=4.27, 1.71 Hz, 1H).                                                                                                                                               | LCMS (ESI+) calcd for C22H27N5O2 (M+H+): 394.22; found: 394.35  |
| ER-899626 |   | 407.52 | 0.0027 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1-ethylpiperidin-4-yl)-6-methylmorpholine-2-carboxamide                 | <sup>1</sup> H NMR (400 MHz, METHANOL-d4) δ ppm: 1.30-1.38 (m, 6H), 1.92 (br s, 2H), 2.10 (br s, 2H), 2.73 (dd, J=12.07, 10.28 Hz, 1H), 2.81 (dd, J=11.86, 10.83 Hz, 1H), 3.01 (br s, 2H), 3.13 (q, J=7.30 Hz, 2H), 3.35 (s, 3H), 3.37-3.44 (m, 1H), 3.54 (d, J=11.33 Hz, 2H), 3.64-3.76 (m, 1H), 4.01 (s, 1H), 4.50 (dd, J=10.68, 2.63 Hz, 1H), 7.27 (d, J=8.05 Hz, 1H), 7.66 (dd, J=8.58, 4.27 Hz, 1H), 8.16 (d, J=8.01 Hz, 1H), 8.42 (s, 1H), 8.67 (dd, J=8.58, 1.68 Hz, 1H). | LCMS (ESI+) calcd for C23H29N5O2 (M+H+): 408.24; found: 408.0   |
| ER-899680 |  | 407.52 | 0.0148 | 8.784  | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1-ethylpiperidin-3-yl)-6-methylmorpholine-2-carboxamide                 | <sup>1</sup> H NMR (400 MHz, CD3OD) δ ppm: 1.06-1.13 (m, 3H), 1.30-1.35 (d, 3H), 1.42-1.52 (m, 1H), 1.56-1.67 (m, 1H), 1.70-1.83 (m, 2H), 2.44-2.53 (m, 2H), 2.65-2.88 (m, 4H), 3.35-3.41 (m, 1H), 3.66-3.72 (m, 1H), 3.96-4.04 (m, 1H), 4.09-4.18 (m, 1H), 4.43-4.49 (dd, 1H), 7.24-7.29 (d, 1H), 7.62-7.67 (dd, 1H), 8.12-8.16 (d, 1H), 8.64-8.68 (dd, 1H), 8.96-8.99 (dd, 1H).                                                                                                | LCMS (ESI+) calcd for C23H29N5O2 (M+H+): 408.24; found: 408.36. |

FIG. 6FFFF

|           |                                                                                      |        |        |        |                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                 |
|-----------|--------------------------------------------------------------------------------------|--------|--------|--------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| ER-899688 |   | 393.49 | 0.0082 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((R)-1-methylpiperidin-3-yl)morpholine-2-carboxamide hydrochloride          | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.34 (d, J=6.20 Hz, 3H) 1.38 - 1.52 (m, 1H) 1.63 (m, 1H) 1.69 - 1.85 (m, 2H) 2.19 (br. s., 2H) 2.29 (s, 3H) 2.58 (br. s., 1H) 2.67 - 2.87 (m, 3H) 3.40 (d, J=12.07 Hz, 1H) 3.70 (dt, J=11.96, 2.24 Hz, 1H) 3.99 - 4.06 (m, 1H) 4.07 - 4.23 (m, 1H) 4.47 (dd, J=10.79, 2.67 Hz, 1H) 7.27 (d, J=7.90 Hz, 1H) 7.66 (dd, J=8.55, 4.27 Hz, 1H) 8.15 (d, J=8.12 Hz, 1H) 8.67 (dd, J=8.55, 1.50 Hz, 1H) 8.99 (dd, J=4.27, 1.50 Hz, 1H) | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 394.22; found: 394.28  |
| ER-899718 |   | 393.49 | 0.0030 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-((4-methylpiperidin-4-yl)morpholine-2-carboxamide                           | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 1.20 - 1.37 (m, 5H) 1.46 (s, 3H) 1.87 - 2.00 (m, 2H) 2.39 (d, J=12.51 Hz, 2H) 2.65 - 2.80 (m, 2H) 2.97 - 3.15 (m, 3H) 3.17 - 3.33 (m, 3H) 3.46 (s, 2H) 3.75 (d, J=12.02 Hz, 1H) 4.04 - 4.16 (m, 1H) 4.35 (dd, J=10.72, 2.56 Hz, 1H) 6.42 (s, 1H) 7.10 (d, J=8.01 Hz, 1H) 7.52 (dd, J=8.55, 4.23 Hz, 1H) 8.03 (d, J=7.97 Hz, 1H) 8.46 (dd, J=8.56, 1.62 Hz, 1H) 9.06 (dd, J=4.20, 1.60 Hz, 1H)                                               | LCMS (ESI+) calcd for C <sub>22</sub> H <sub>27</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 394.22; found: 393.9   |
| ER-899722 |   | 367.45 | 0.0040 | > 10.0 | (2R,6R)-N-(2-amino-2-methylpropyl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide                            | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.07 (d, 7H) 1.25 - 1.36 (m, 3H) 2.64 - 2.86 (m, 3H) 3.18 (d, 2H) 3.36 (dt, 1H) 3.68 (dt, 1H) 4.13 (m, 1H) 4.50 (dd, 1H) 7.23 (d, 1H) 7.62 (dd, 1H) 8.11 (d, 1H) 8.63 (dd, 1H) 8.94 (dd, 1H)                                                                                                                                                                                                                                    | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>25</sub> N <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 368.20; found: 368.2   |
| ER-899742 |   | 419.89 | 0.0059 | > 10.0 | rel-(2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3R,4S)-4-fluoropyrrolidin-3-yl)-6-methylmorpholine-2-carboxamide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.36 (d, 4H) 2.59 - 2.80 (m, 1H) 2.86 (t, 1H) 3.35 (m, 1H) 3.38 - 3.48 (m, 1H) 3.48 - 3.65 (m, 1H) 3.65 - 3.86 (m, 5H) 4.16 - 4.21 (m, 1H) 4.58 (dd, 1H) 5.23 (t, 1H) 5.37 (t, 1H) 7.29 (d, 1H) 7.68 (dd, 1H) 8.11 (d, 1H) 8.17 (d, 1H) 8.69 (dd, 1H) 9.01 (dd, 1H)                                                                                                                                                             | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>23</sub> FN <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 384.15; found: 384.03 |
| ER-899745 |  | 419.89 | 0.0081 | > 10.0 | rel-(2R,6R)-4-(8-cyanoquinolin-5-yl)-N-((3S,4R)-4-fluoropyrrolidin-3-yl)-6-methylmorpholine-2-carboxamide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.35 (d, 4H) 2.75 (t, 1H) 2.86 (t, 1H) 3.43 (d, 2H) 3.59 (t, 1H) 3.67 - 3.79 (m, 6H) 4.05 - 4.29 (m, 1H) 4.59 (dd, 1H) 7.29 (d, 1H) 7.70 (dd, 1H) 8.12 (d, 1H) 8.18 (d, 1H) 8.73 (d, 1H) 9.01 (dd, 1H)                                                                                                                                                                                                                          | LCMS (ESI+) calcd for C <sub>20</sub> H <sub>23</sub> FN <sub>5</sub> O <sub>2</sub> (M+H <sup>+</sup> ): 384.15; found: 384.06 |

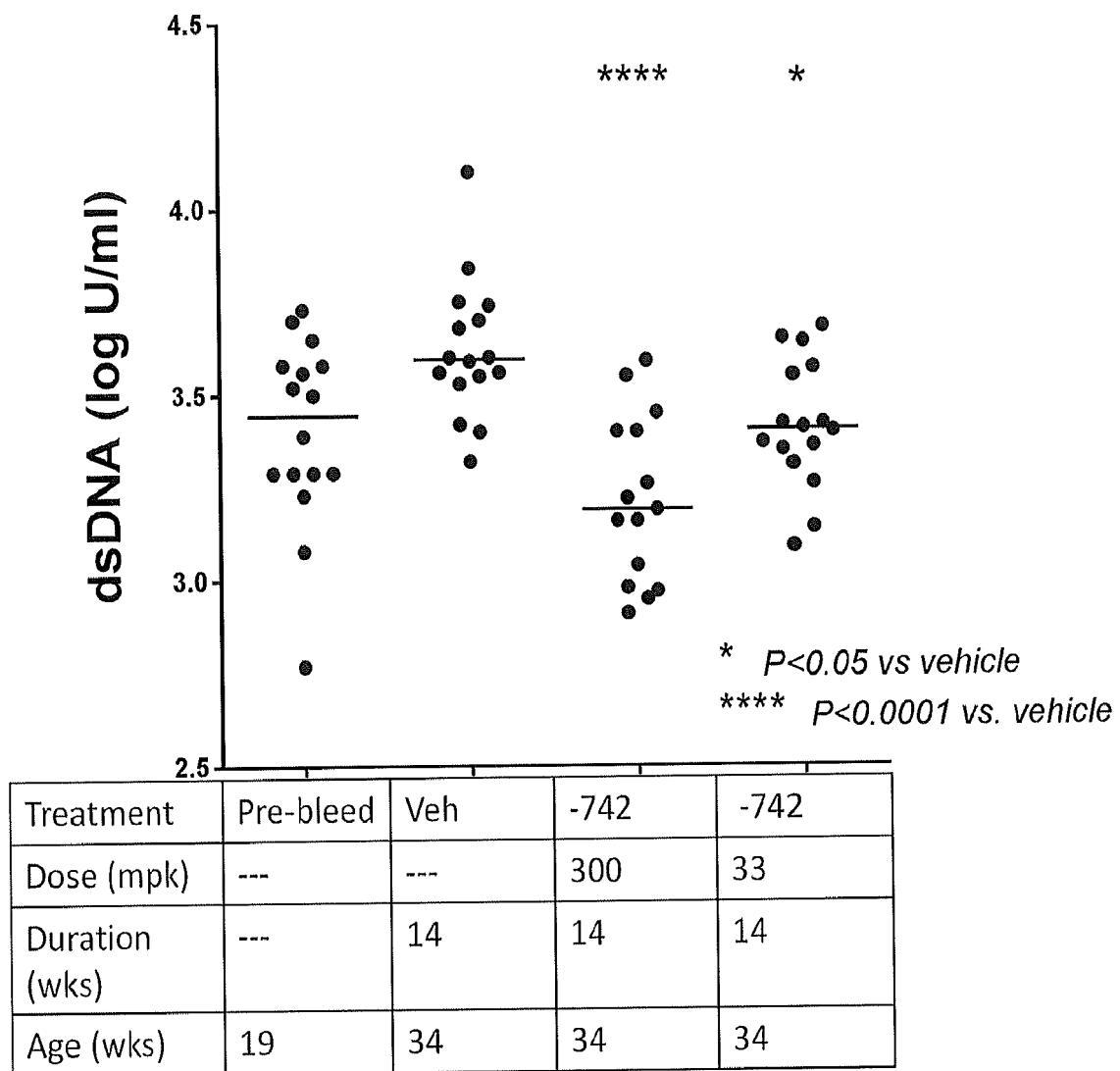
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FIG. 6GGGG

|           |                                                                                                                                                                                                                     |        |        |        |                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                 |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| ER-899819 | <br><chem>Cc1cn(Cc2cnc3cc(C#N)ccc3n2)cc4cnc14</chem><br>HCl<br>C <sub>22</sub> H <sub>28</sub> ClN <sub>5</sub> O <sub>2</sub>   | 429.95 | 0.0053 | 7.490  | (2R,6R)-N-(azepan-3-yl)-4-(8-cyanoquinolin-5-yl)-6-methylmorpholine-2-carboxamide hydrochloride                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                 |
| ER-899820 | <br><chem>Cc1cn(Cc2cnc3cc(C#N)ccc3n2)cc4cnc14</chem><br>HCl<br>C <sub>23</sub> H <sub>30</sub> ClN <sub>5</sub> O <sub>2</sub>   | 443.98 | 0.0083 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-6-methyl-N-(1-methylazepan-3-yl)morpholine-2-carboxamide hydrochloride             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                 |
| ER-899835 | <br><chem>Cc1cn(Cc2cnc3cc(C#N)ccc3n2)cc4cnc14</chem><br>C <sub>23</sub> H <sub>29</sub> N <sub>5</sub> O <sub>2</sub>            | 407.52 | 0.0661 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(1,4-dimethylpiperidin-4-yl)-6-methylmorpholine-2-carboxamide                    | <sup>1</sup> H NMR (400 MHz, CHLOROFORM-d) δ ppm 0.84 - 0.91 (m, 1 H) 1.21 - 1.28 (m, 5 H) 1.34 (d, J=6.22 Hz, 3 H) 1.42 (s, 3 H) 1.67 - 1.90 (m, 4 H) 2.05 - 2.17 (m, 2 H) 2.21 (d, J=8.09 Hz, 1 H) 2.31 (s, 3 H) 2.54 - 2.65 (m, 1 H) 2.66 - 2.78 (m, 2 H) 3.30 (d, J=11.90 Hz, 1 H) 3.81 (d, J=12.09 Hz, 1 H) 4.03 - 4.16 (m, 1 H) 4.34 (dd, J=10.72, 2.52 Hz, 1 H) 4.85 - 4.93 (m, 1 H) 6.42 (s, 1 H) 7.09 (d, J=7.97 Hz, 1 H) 7.52 (dd, J=8.55, 4.20 Hz, 1 H) 8.04 (d, J=7.93 Hz, 1 H) 8.47 (dd, J=8.54, 1.37 Hz, 1 H) 9.07 (dd, J=4.04, 1.41 Hz, 1 H) | LCMS (ESI+) calcd for C23H29N5O2 (M+H+): 408.24; found: 408     |
| ER-899836 | <br><chem>Cc1cn(Cc2cnc3cc(C#N)ccc3n2)cc4cnc14</chem><br>HCl<br>C <sub>22</sub> H <sub>27</sub> ClFN <sub>5</sub> O <sub>2</sub> | 447.93 | 0.3190 | > 10.0 | (2R,6R)-4-(8-cyanoquinolin-5-yl)-N-(4-fluoro-1-methylpiperidin-3-yl)-6-methylmorpholine-2-carboxamide hydrochloride | <sup>1</sup> H NMR (400 MHz, METHANOL-d <sub>4</sub> ) δ ppm 1.34 (d, J=6.41 Hz, 3 H) 1.92 - 2.14 (m, 2 H) 2.22 - 2.43 (m, 5 H) 2.58 (br, 1 H) 2.64 - 2.89 (m, 3 H) 3.40 (d, J=12.07 Hz, 1 H) 3.70 (dd, J=11.96, 2.14 Hz, 1 H) 4.09 - 4.28 (m, 2 H) 4.53 (ddd, J=10.74, 3.90, 2.67 Hz, 1 H) 4.65 - 4.86 (m, 1 H) 7.28 (d, J=8.12 Hz, 1 H) 7.66 (dd, J=8.55, 4.27 Hz, 1 H) 8.16 (d, J=8.12 Hz, 1 H) 8.68 (dd, J=8.65, 1.60 Hz, 1 H) 8.99 (dd, J=4.27, 1.71 Hz, 1 H)                                                                                          | LCMS (ESI+) calcd for C22H26FN5O2 (M+H+): 412.18; found: 412.23 |

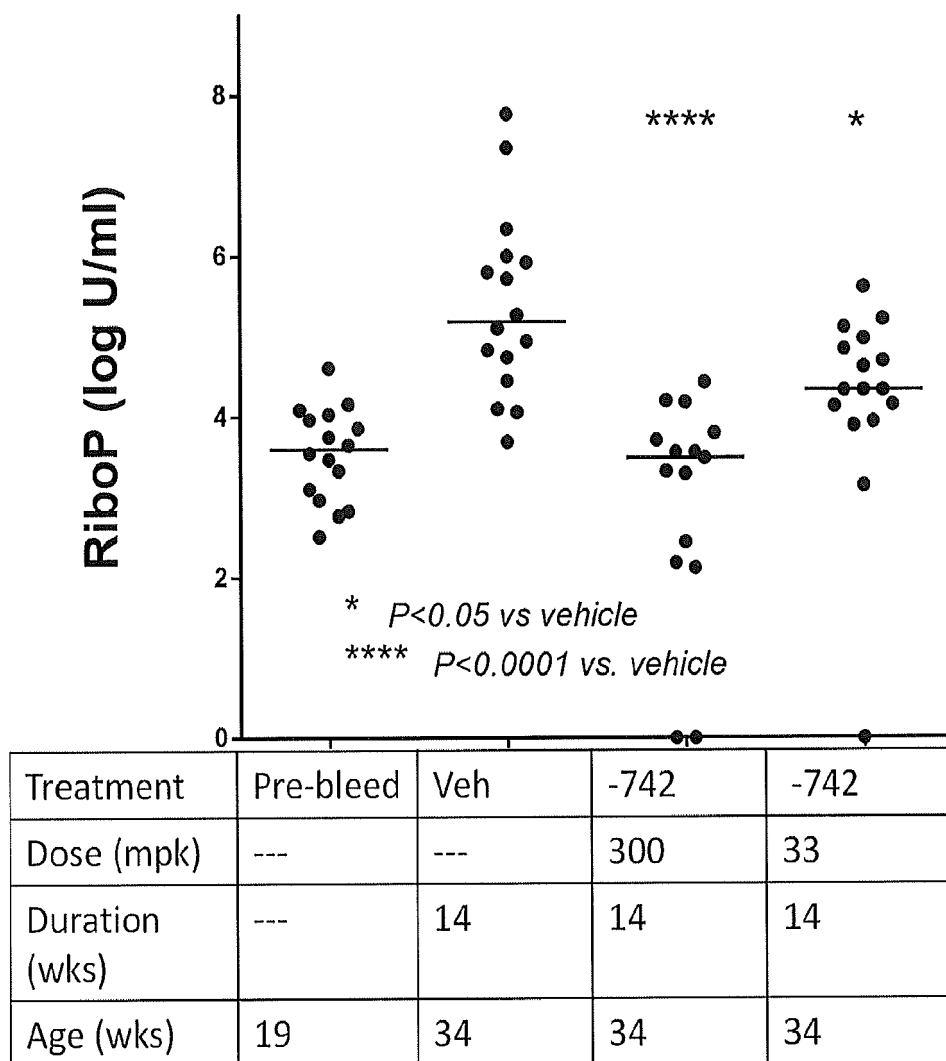
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FIG. 7(A)



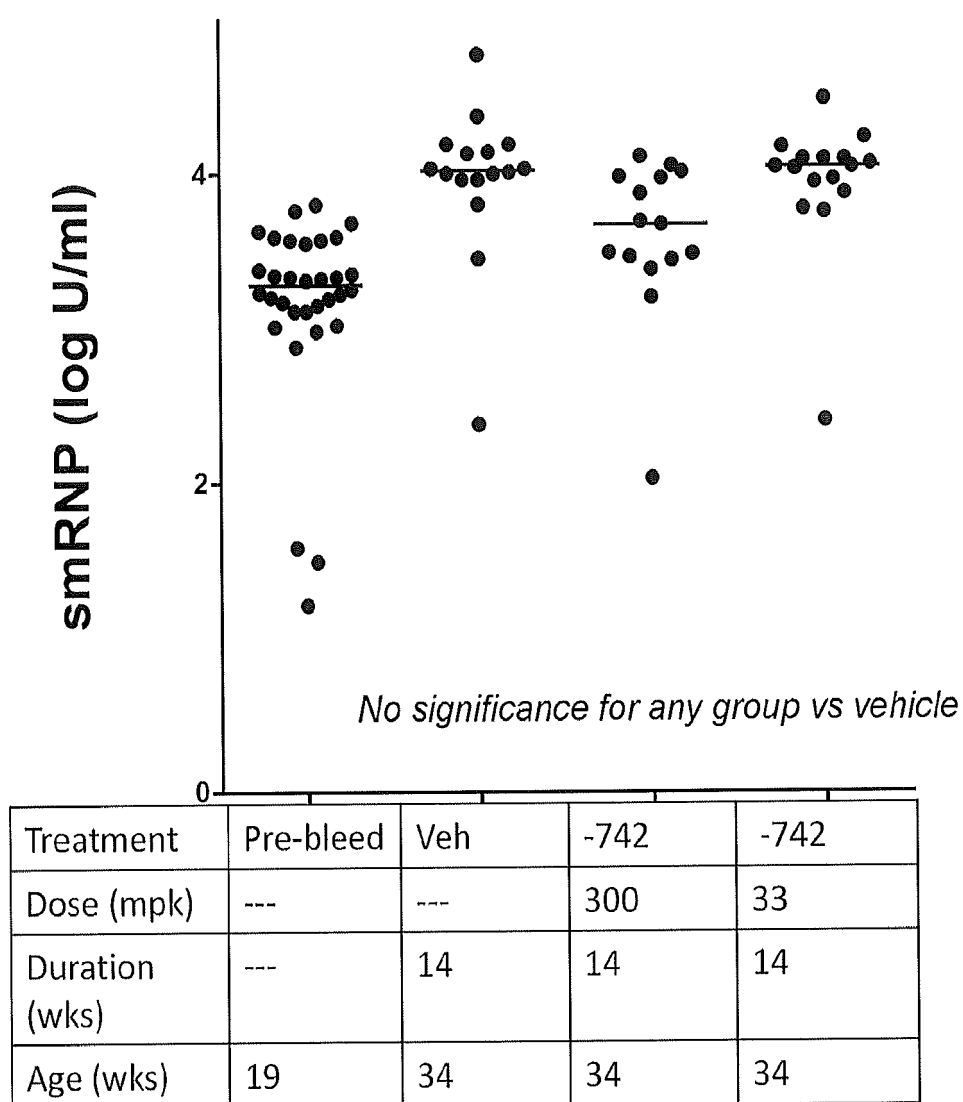
104/111

FIG. 7(B)



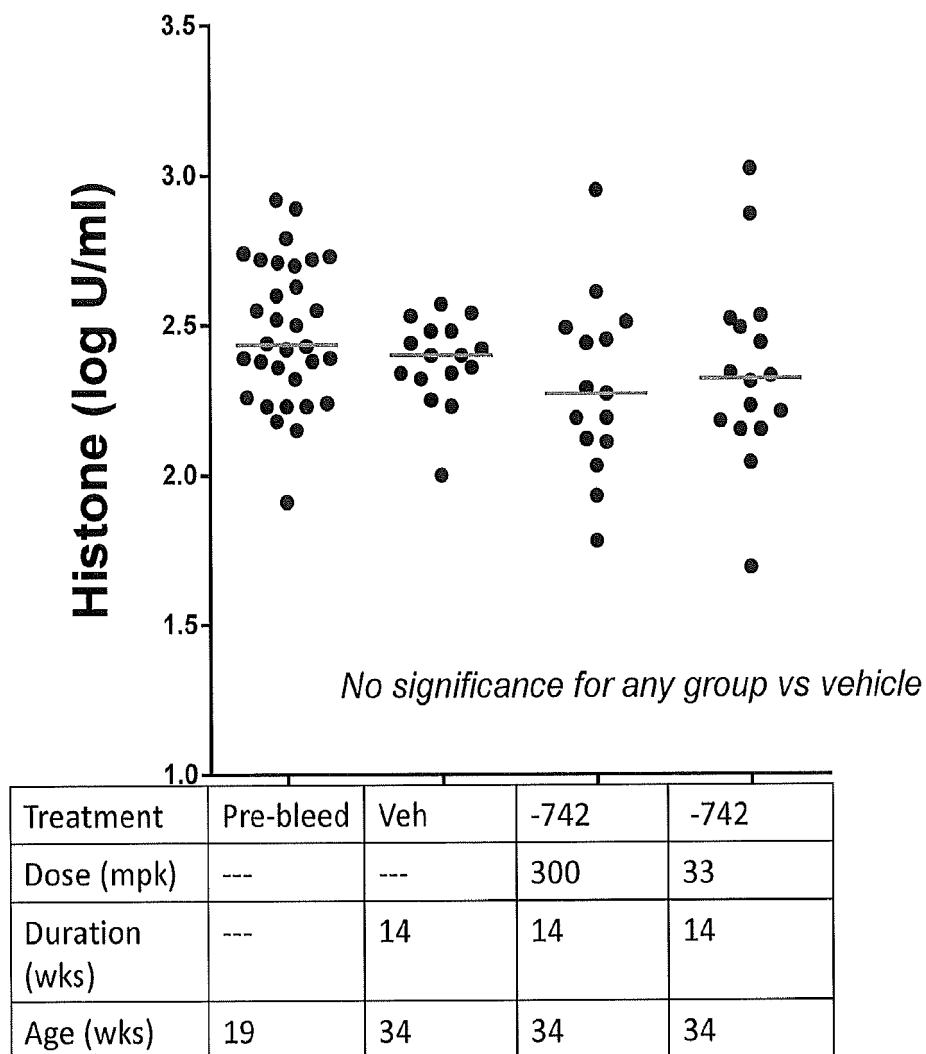
105/111

FIG. 7(C)



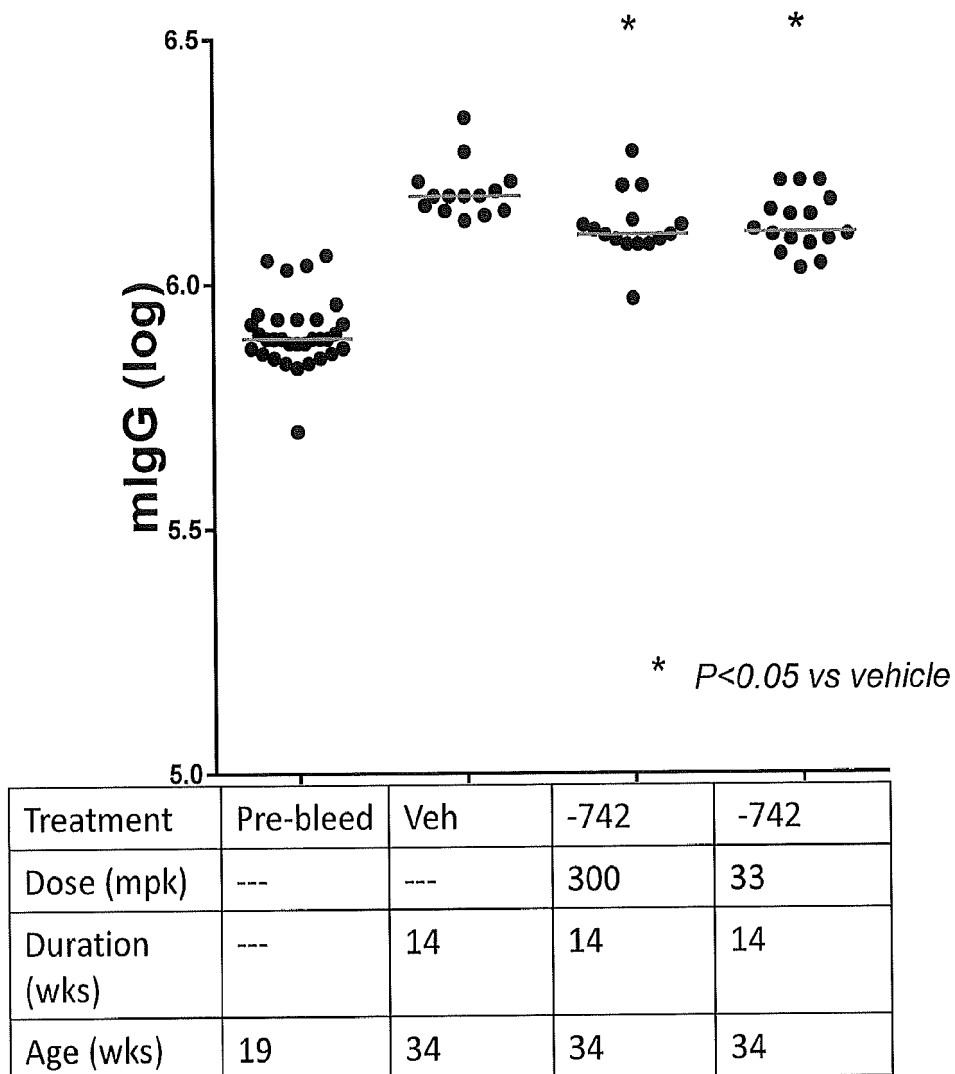
106/111

FIG. 7(D)



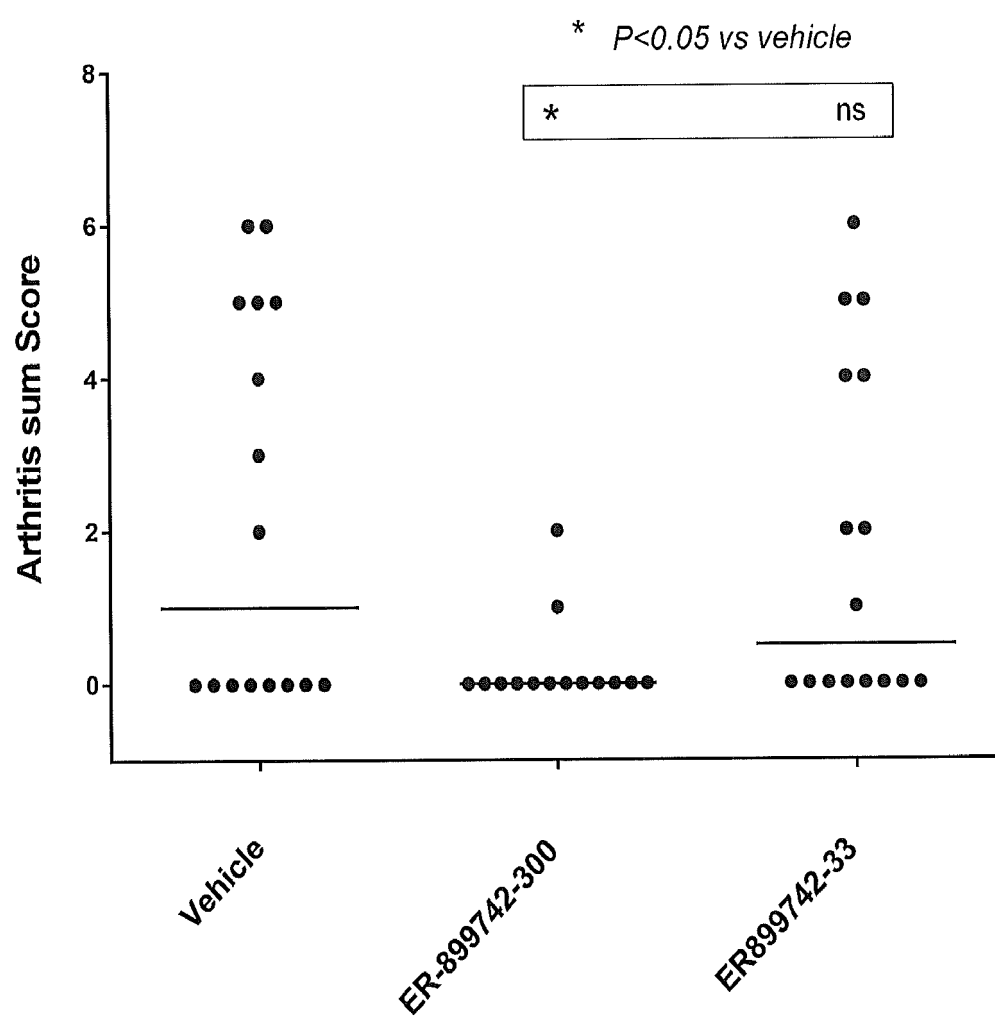
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FIG. 7(E)



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FIG. 7(F)



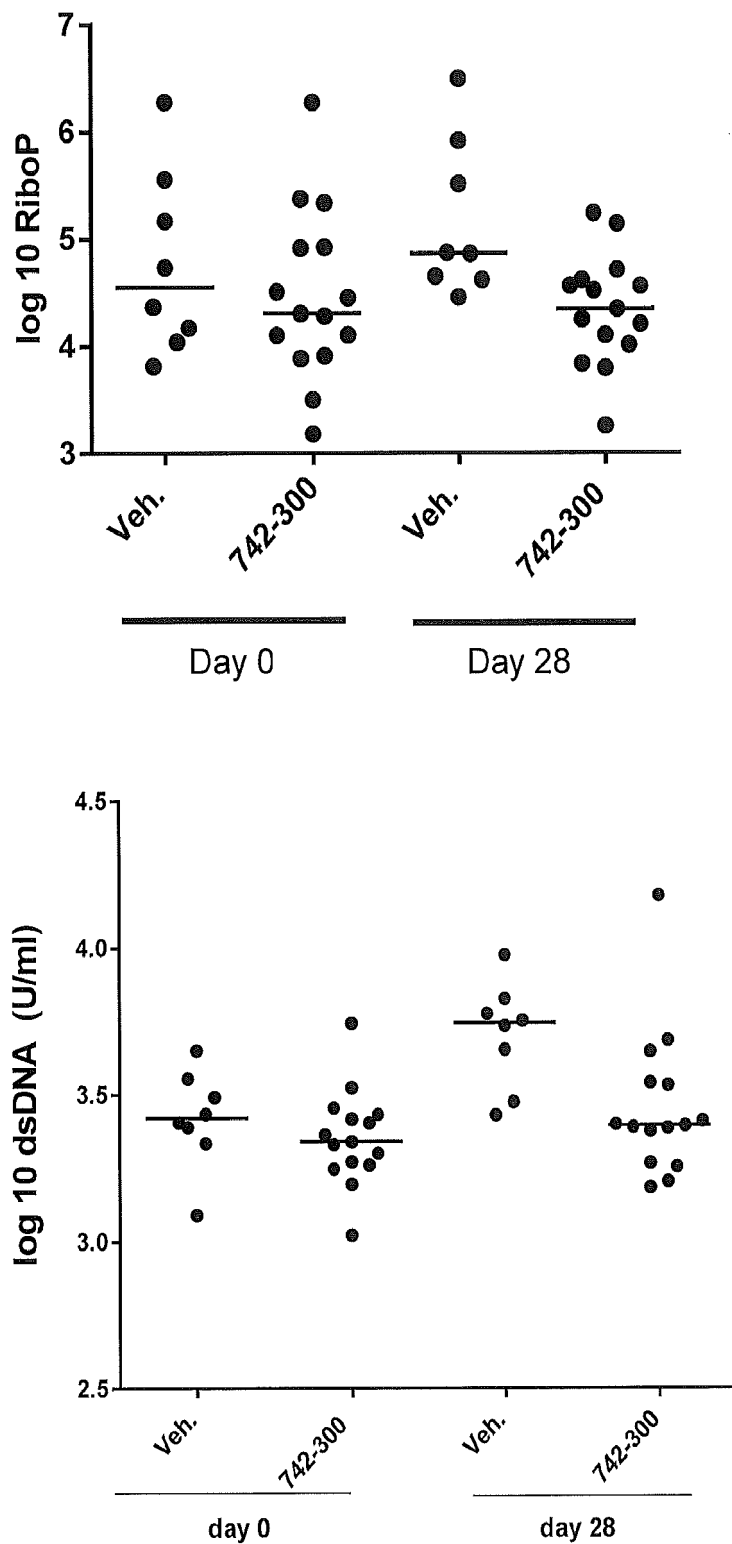
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FIG. 7G

| Gene Number                                                                                                                                    | Gene Name     |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 1                                                                                                                                              | <b>Irf7*</b>  |
| 2                                                                                                                                              | <b>Isg15*</b> |
| 3                                                                                                                                              | Fcgr1         |
| 4                                                                                                                                              | <b>Usp18*</b> |
| 5                                                                                                                                              | <b>Oasl2*</b> |
| 6                                                                                                                                              | Cmpk2         |
| 7                                                                                                                                              | Herc6         |
| 8                                                                                                                                              | <b>Ifit1*</b> |
| 9                                                                                                                                              | Oas3          |
| 10                                                                                                                                             | Ifi202b       |
| 11                                                                                                                                             | Ifit3         |
| 12                                                                                                                                             | Ifi2712a      |
| 13                                                                                                                                             | Ddx60         |
| 14                                                                                                                                             | Ifi44         |
| 15                                                                                                                                             | Xaf1          |
| 16                                                                                                                                             | Mx1           |
| 17                                                                                                                                             | Ifi204        |
| 18                                                                                                                                             | Elane         |
| 19                                                                                                                                             | Fpr1          |
| 20                                                                                                                                             | Mmp8          |
| 21                                                                                                                                             | Ccl2          |
| 22                                                                                                                                             | Ms4a6c        |
| 23                                                                                                                                             | Cxcl10        |
| 24                                                                                                                                             | Ccr2          |
| 24 genes were significantly upregulated between Pristane + Vehicle vs. uninduced PBS control (P.adj "FDR" <0.05, at least 1.5 Fold Change)     |               |
| * Significantly reduced by 300 mg/kg ER899742 vs. vehicle-treated pristane-induced mice (5 genes) (P.adj "FDR"<0.05, at least 1.5 fold change) |               |

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FIG. 8



No statistically significant change in titer seen in dosed groups over time.

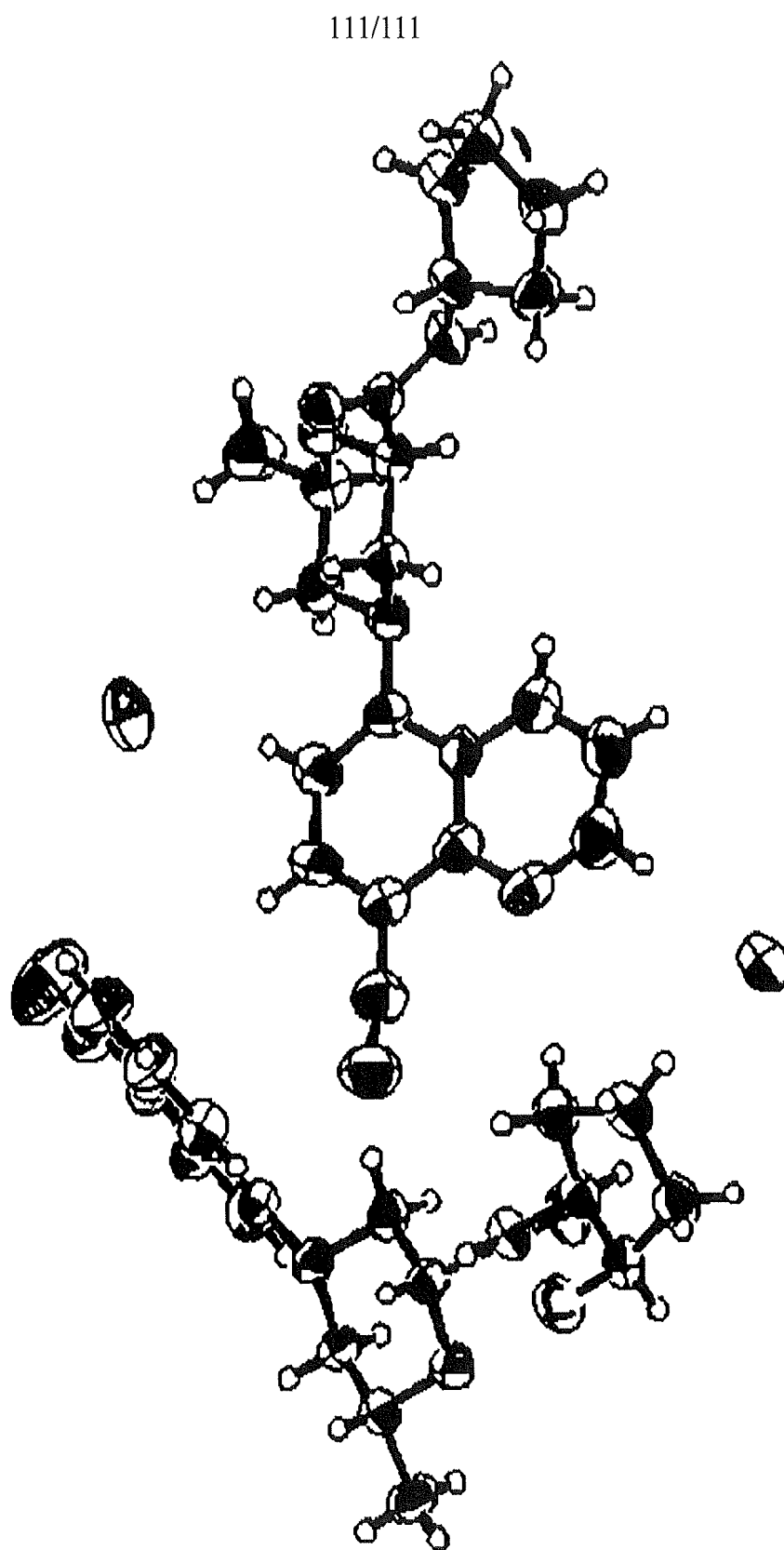


FIG. 9 ORTEP plot of the crystal structure of ER-899742-HCl.