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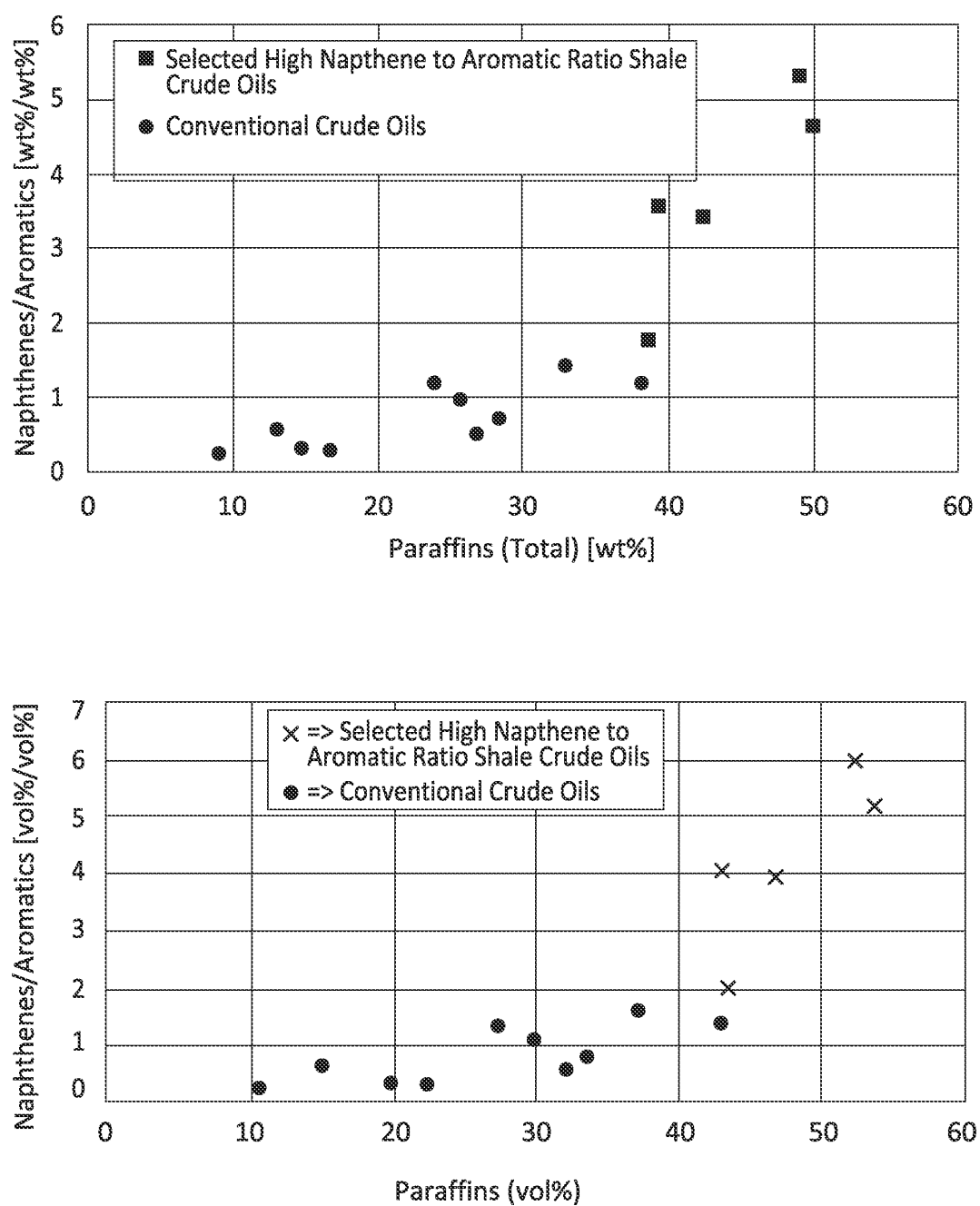


FIG. 1

SUBSTITUTE SHEET (RULE 26)

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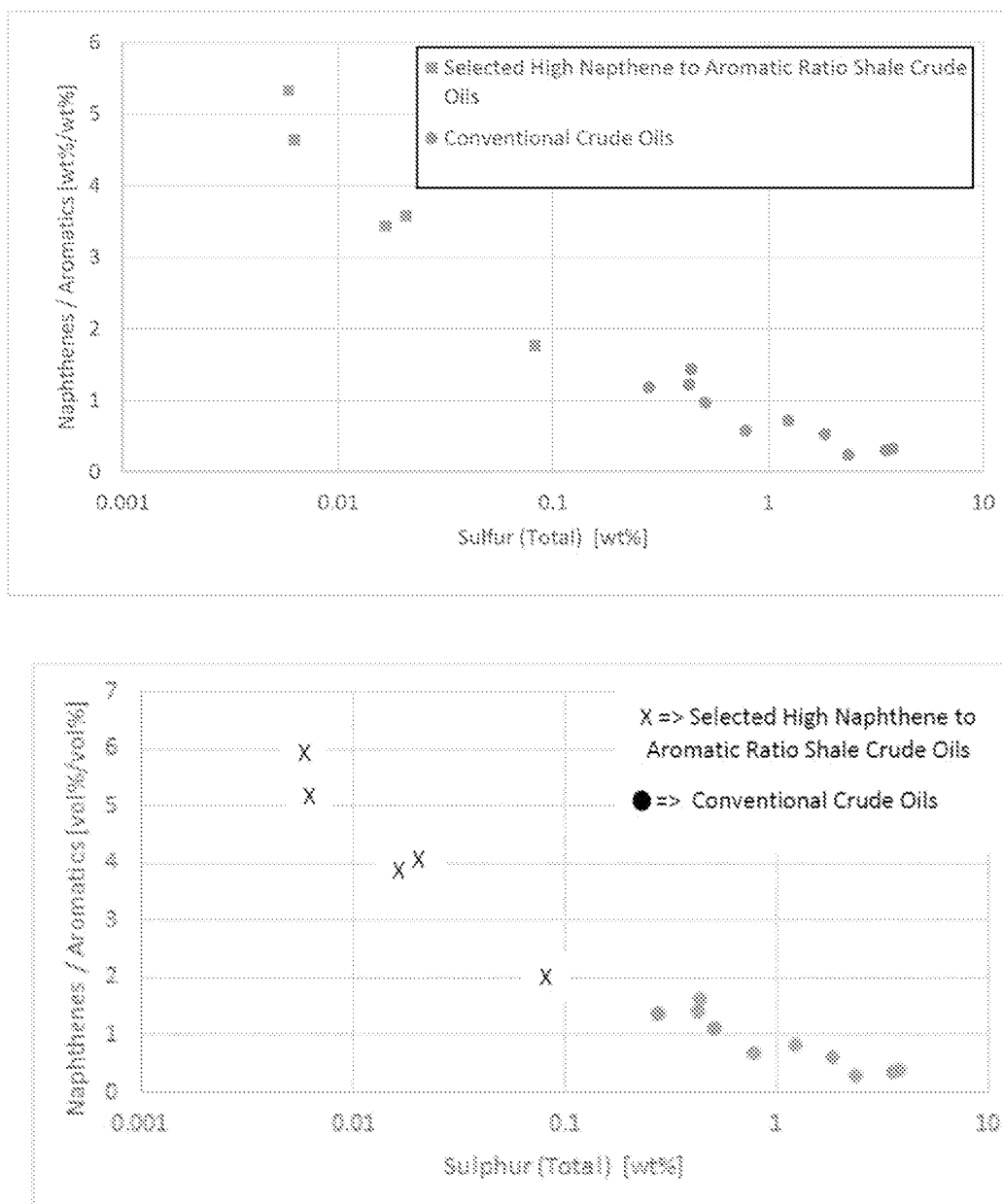


FIG. 2

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|                                           | ISO 8217<br>RMD 80<br>VLSFO<br>Limit | Feed   | Product | LNG     | Comparative<br>Example:<br>Hydrotreated<br>vacuum resid in<br>US2016/0160139 | Comparative<br>Example:<br>Bottoms of<br>HDT Catalytic<br>Slurry Oil in<br>US10047299 |
|-------------------------------------------|--------------------------------------|--------|---------|---------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Saturates<br>(wt%)                        |                                      | 75.07  | 86.3    | 100     | -                                                                            | 29.2                                                                                  |
| 1-ring<br>aromatic<br>ring class<br>(wt%) |                                      | 11.67  | 9.1     | 0       | -                                                                            | 17.3                                                                                  |
| Aromatics<br>(wt%)                        |                                      | 24.56  | 13.6    | 0       | -                                                                            | 67.7                                                                                  |
| Sulfides<br>(wt%)                         |                                      | 0      | 0.0     | 0       | -                                                                            | 1.8                                                                                   |
| Polars<br>(wt%)                           |                                      | 0.37   | 0.0     | 0       | -                                                                            | 14                                                                                    |
| Density at<br>15°C<br>(kg/m3)             | Max. 975                             | 869.5  | 834.5   | 421-467 | 945                                                                          | 1005                                                                                  |
| KV100<br>(cSt)                            |                                      | 9.4494 | 4.1355  | NA      | -                                                                            | -                                                                                     |
| KV 70<br>(cSt)                            |                                      | 21.437 | 7.6093  | NA      | -                                                                            | -                                                                                     |
| KV50 (cSt)                                | Max.<br>80.00                        | 44.6   | 13.0    | NA      | 442                                                                          | 920.9                                                                                 |
| VI                                        |                                      | 114    | 137     | NA      |                                                                              |                                                                                       |
| Sulfur<br>(wt%)                           | Max. 0.50                            | 0.0312 | <0.0005 | <0.0005 | 0.1280                                                                       | 0.0219                                                                                |
| Nitrogen<br>(ppm m/m)                     |                                      | 167    | 2       | ~1      | 1600-2300                                                                    | 104.7                                                                                 |
| CCAI                                      | Max. 860                             | 758    | 745     | NA      | 808                                                                          | 858                                                                                   |
| Energy<br>content<br>(MJ/kg)              |                                      | 42.7   | 43.2    | ~45     | 41.7                                                                         | 40.9                                                                                  |
| BMCI                                      |                                      | 21.5   | 9.3     | -       | 54.5                                                                         | 89.7                                                                                  |
| IBP (°C)                                  |                                      | 355.9  | 346.9   | ~ -162  | 305                                                                          | 352.2                                                                                 |
| T10 (°C)                                  |                                      | 396.3  | 376.2   |         | 389.6                                                                        | 374.1                                                                                 |
| T50 (°C)                                  |                                      | 463.1  | 417.6   |         | 496                                                                          | 422.0                                                                                 |
| T90 (°C)                                  |                                      | 573.3  | 477.7   |         | 726.4                                                                        | 526.8                                                                                 |
| FBP (°C)                                  |                                      | 634.0  | 547.5   |         | 750+                                                                         | 640.3                                                                                 |

FIG. 3

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|                                                        | Conv RSFO* | Feed   | Product 1 | Product 2 | LNG      |
|--------------------------------------------------------|------------|--------|-----------|-----------|----------|
| Density at 15°C (kg/m <sup>3</sup> )                   | 985        | 912.4  | -         | -         | 421-467  |
| KV100 (cSt)                                            | -          | 31.467 | -         | -         | NA       |
| KV 70 (cSt)                                            | -          | 102.03 | -         | -         | NA       |
| KV50 (cSt)                                             | 344.5      | 297    | -         | -         | NA       |
| VI                                                     |            | 82     |           |           | NA       |
| Sulfur (wt%)                                           | 2.51       | 0.197  | 0.0100    | 0.00898   | <0.0005  |
| Nitrogen (ppm m/m)                                     | ~10000     | 2258   | -         | -         | ~1       |
| CCAI                                                   | 847        | 776    | -         | -         | NA       |
| BMC1                                                   | 71.8       | 36.6   | -         | -         | -        |
| N-Heptane Insolubles (wt%)                             | ~6         | -      | -         | -         | -        |
| MCR (wt%)                                              | 13.57      | -      | -         | -         | -        |
| Sulfur dioxide emission from fuel (kg/kg of fuel)      | 0.050      | 0.0039 | 0.00020   | 0.00018   | 0.000005 |
| Sulfur dioxide emission from Lubricant (kg/kg of fuel) | 0.0025     | 0.0025 | 0.0025    | 0.0025    | 0.0025   |
| Total sulfur dioxide emission (kg/kg of fuel)          | 0.053      | 0.0064 | 0.0027    | 0.0027    | 0.0025   |
| Sulfur dioxide emission reduction relative to RSFO (%) | 0          | 88     | 95        | 95        | 95       |
|                                                        |            |        |           |           |          |
| IBP (°C)                                               | varies     | 406.6  | 419.0     | 452.0     | ~ -162   |
| T10 (°C)                                               | varies     | 459.7  | 461.0     | 488.3     | -        |
| T50 (°C)                                               | varies     | 527.1  | 509.0     | 538.8     | -        |
| T90 (°C)                                               | varies     | 617.4  | 579.7     | 615.5     | -        |
| FBP (°C)                                               | varies     | 647.3  | 643.5     | 661.3     | -        |

FIG. 4