

FIG. 1

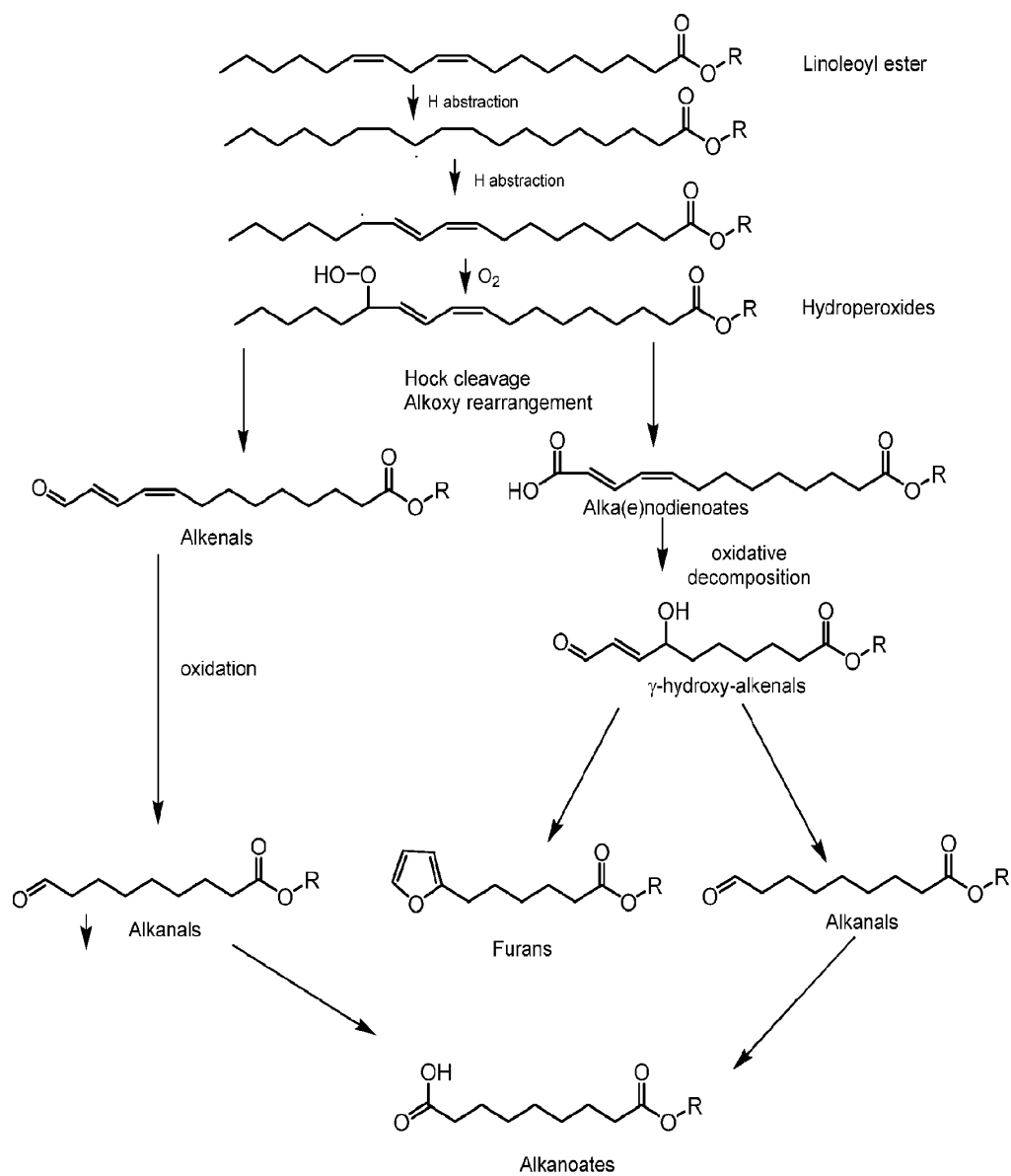


FIG. 2

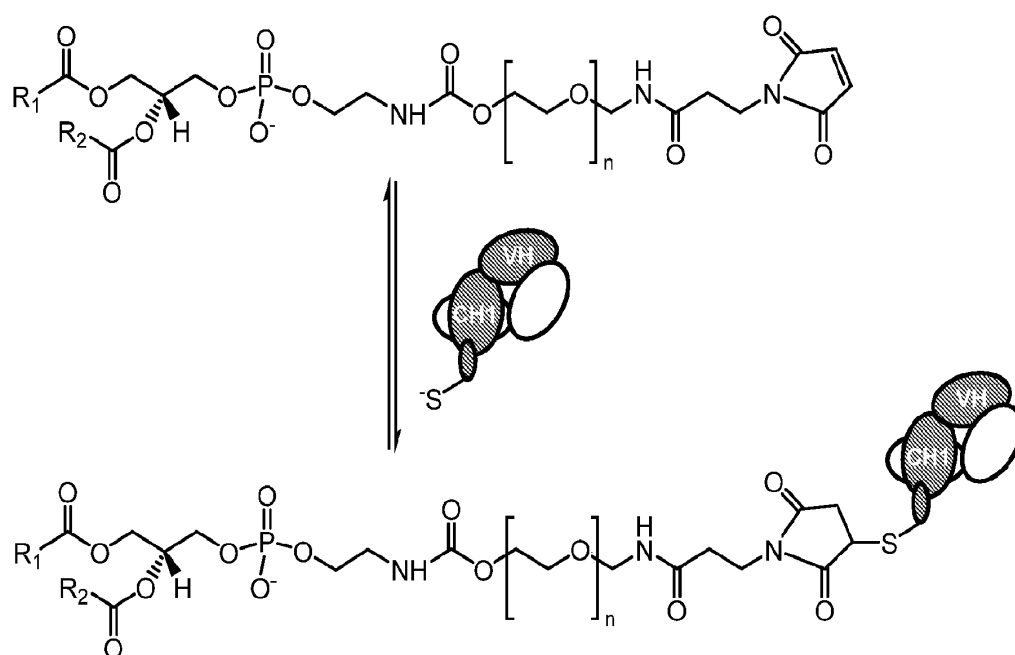


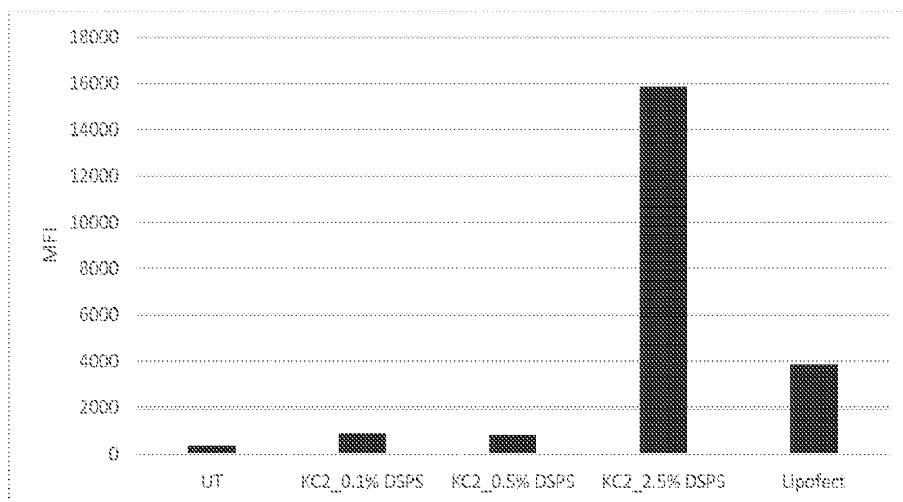
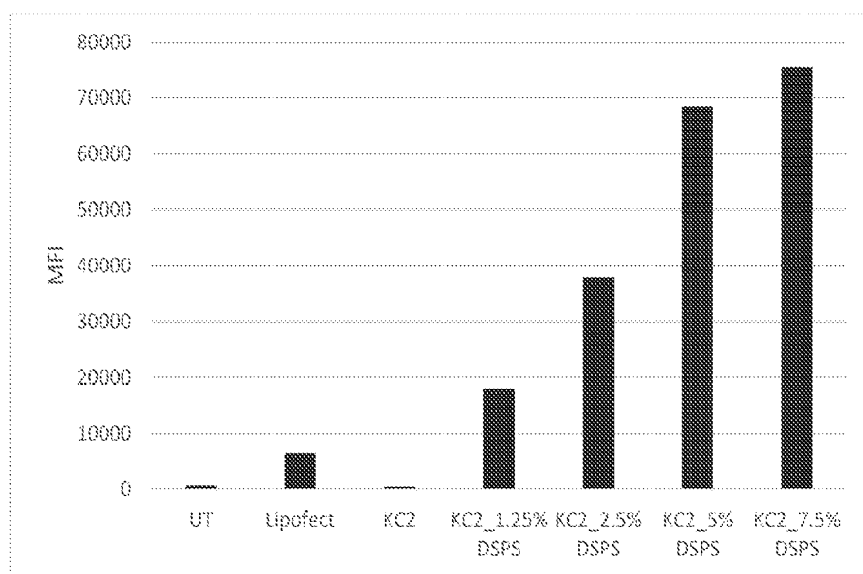
FIG. 3A (Example 12)**FIG. 3B (Example 12)**

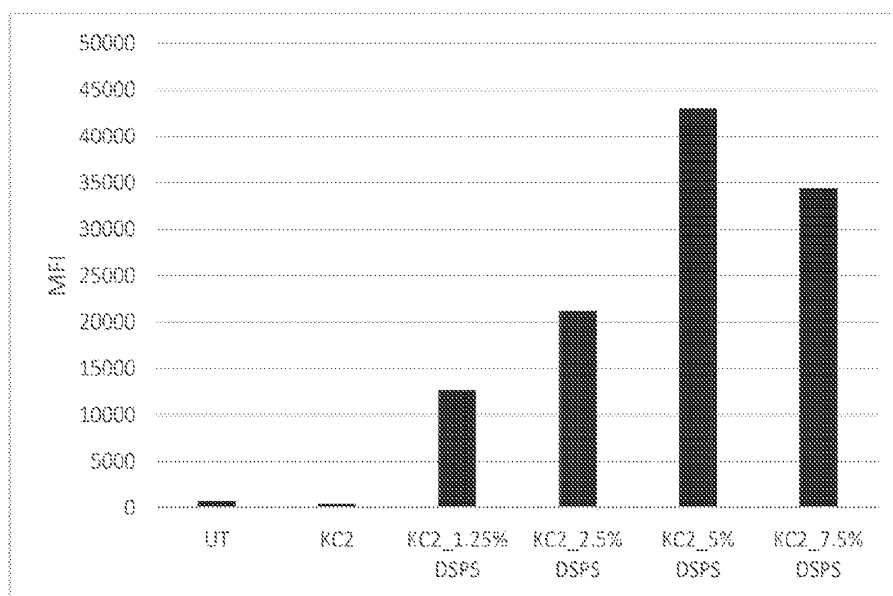
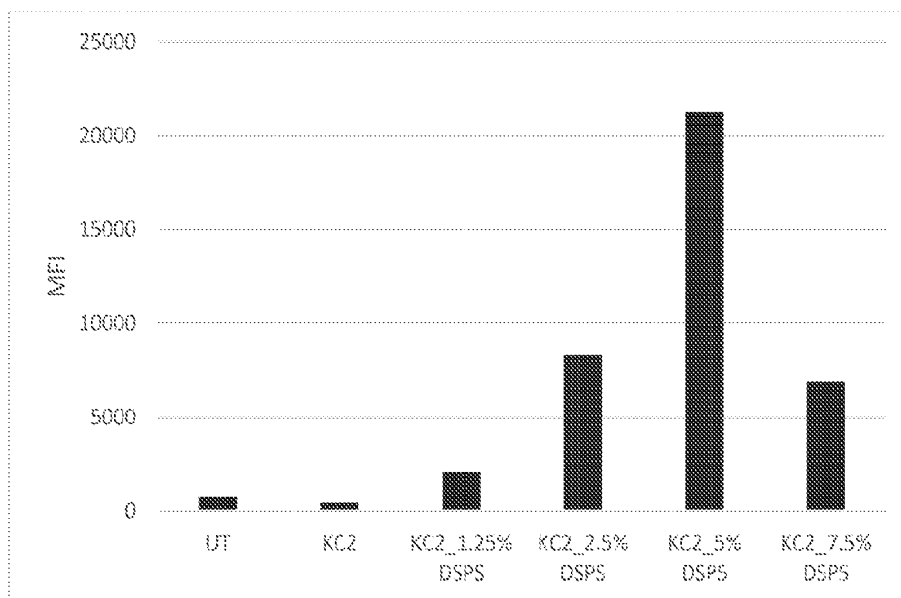
FIG. 3C (Example 12)**FIG. 3D (Example 12)**

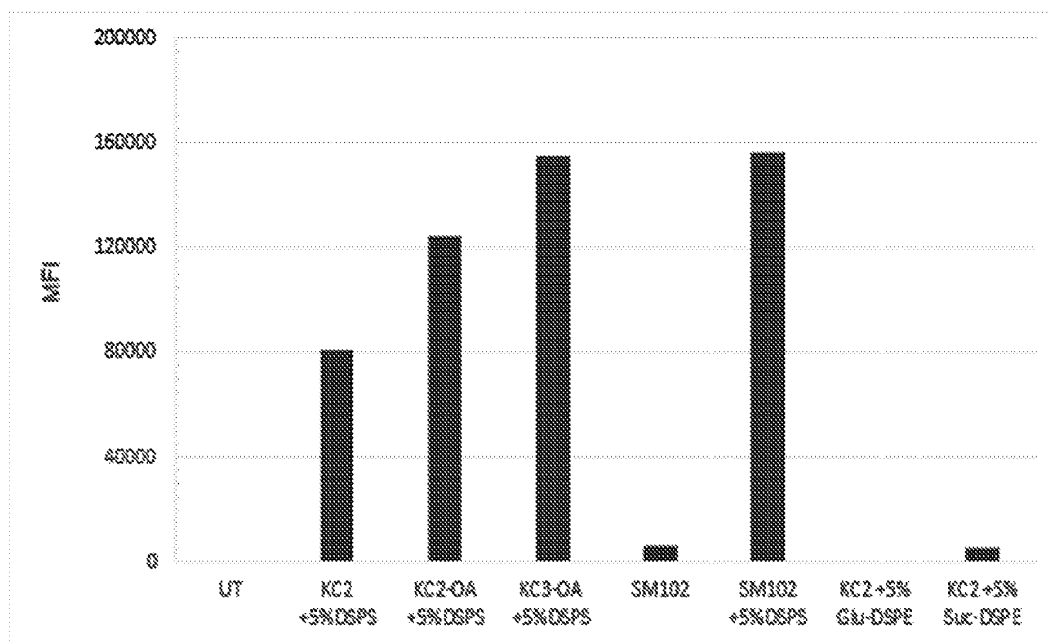
FIG. 4 (Example 13) – SM102 comparison with KC series

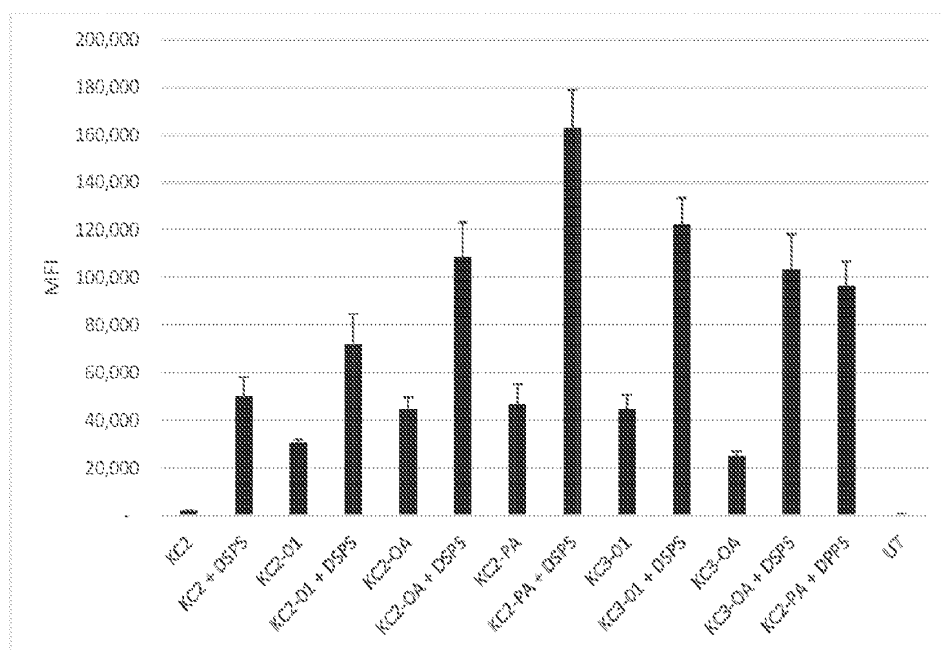
FIG. 5 (Example 14) – PS targeting KC series

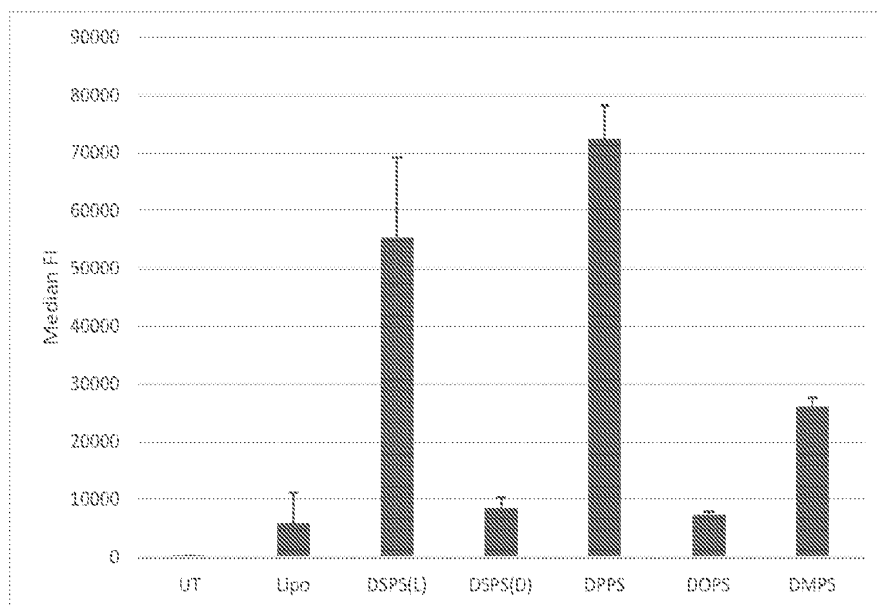
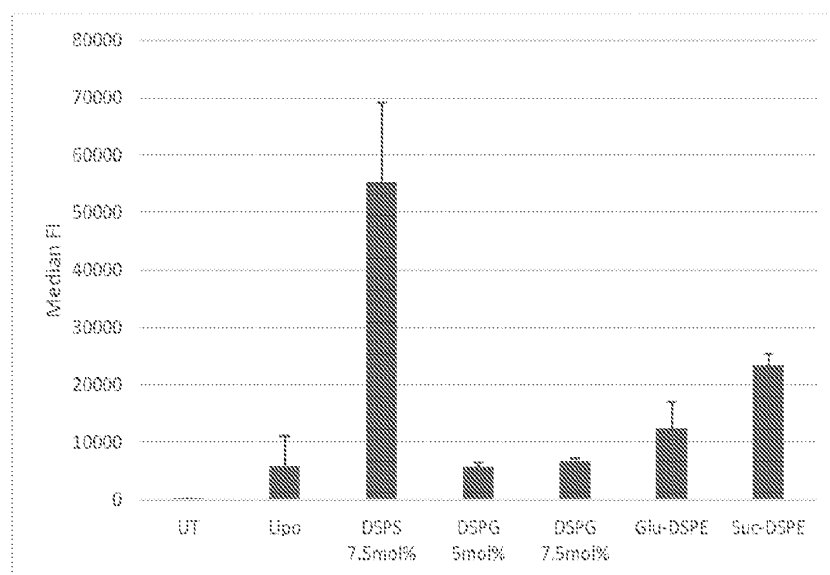
FIG. 6A (Example 15)**FIG. 6B (Example 15)**

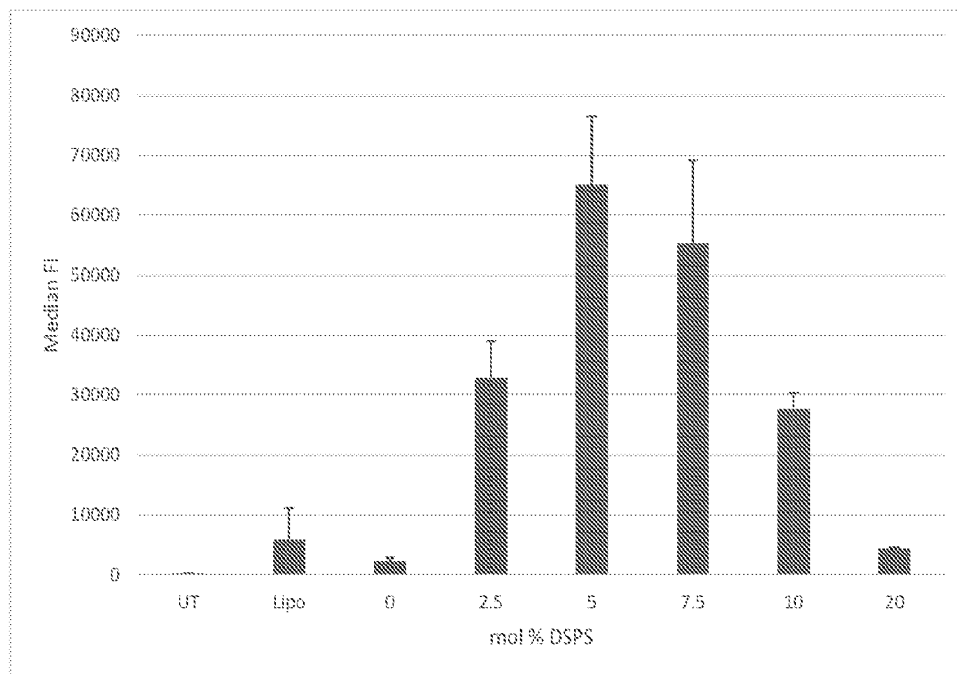
FIG. 7 (Example 16)

FIG. 8 (Example 17)

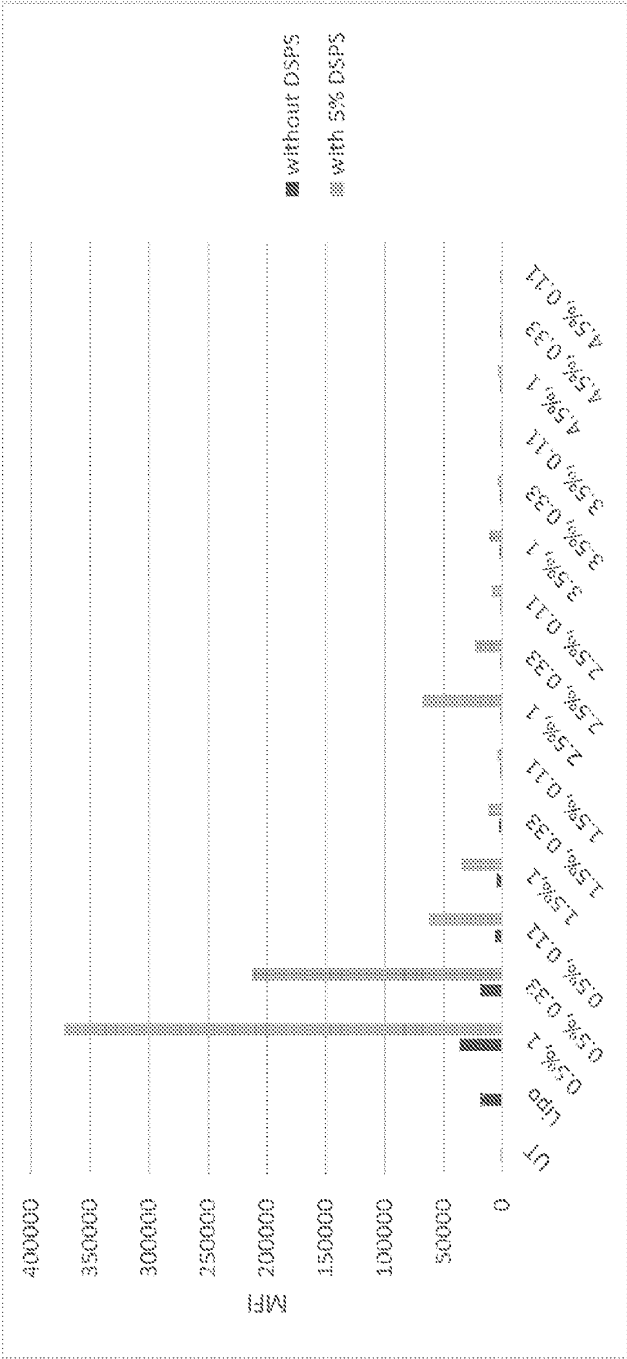


FIG. 9A (Example 18)

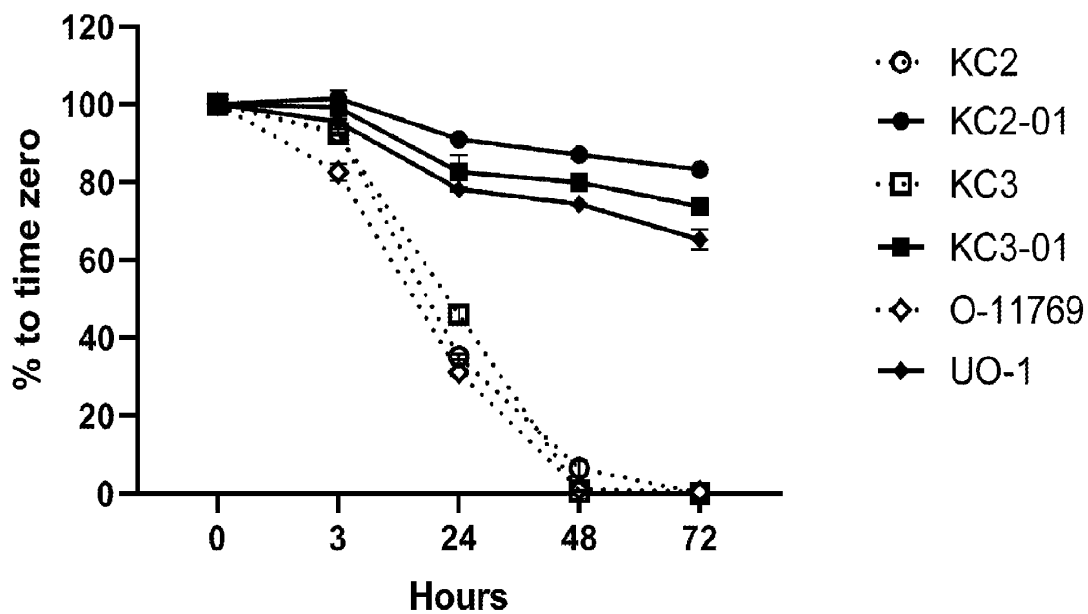


FIG. 9B (Example 18)

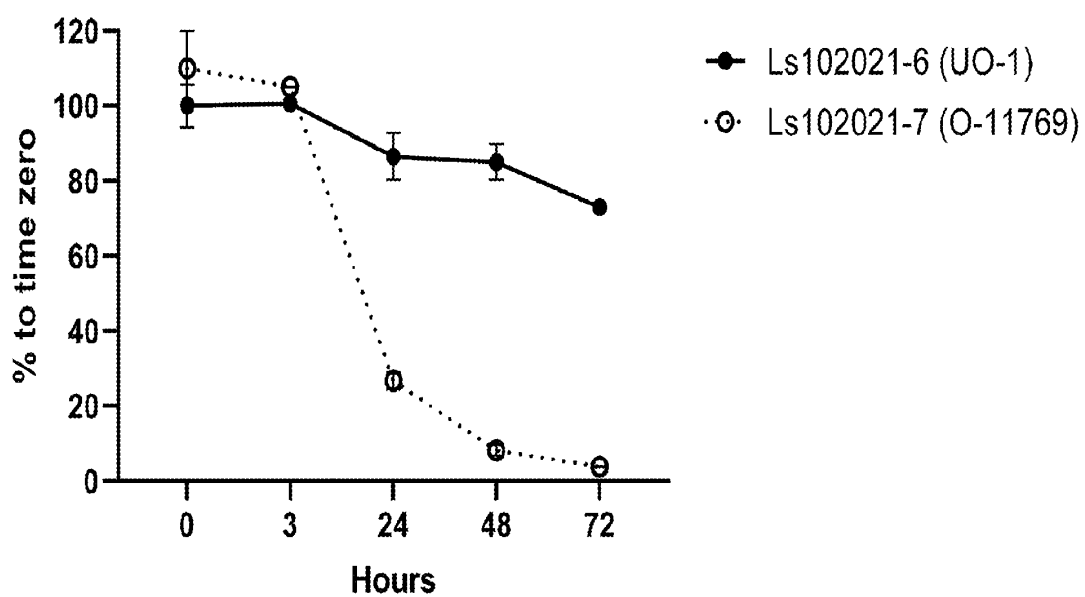


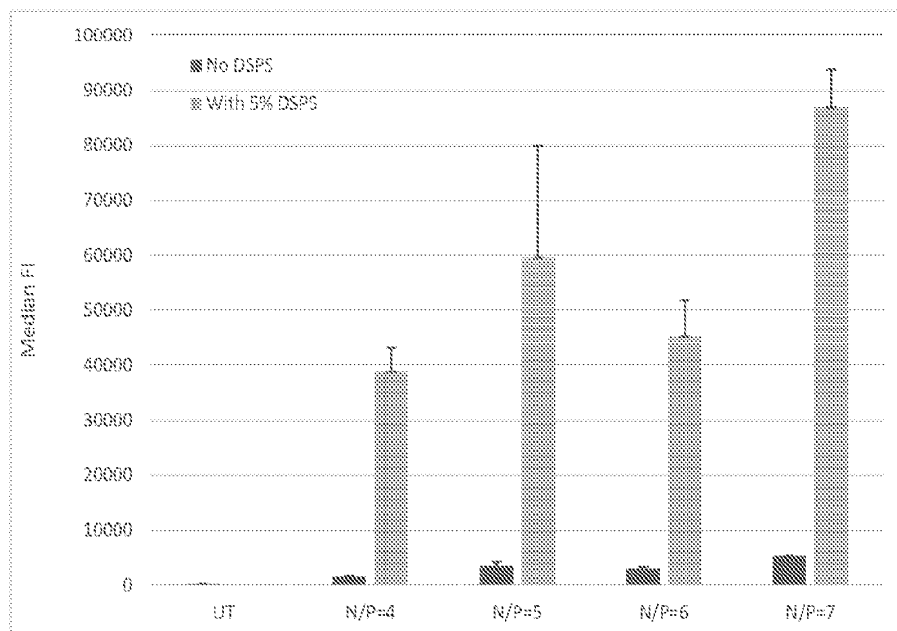
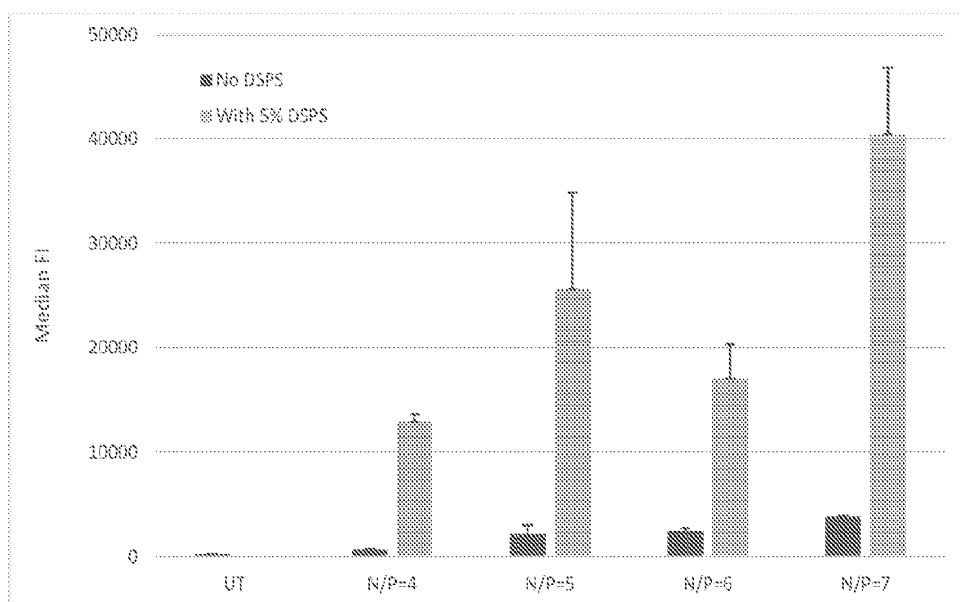
FIG. 10A (Example 19)**FIG. 10B (Example 19)**

FIG. 11 (Example 20)

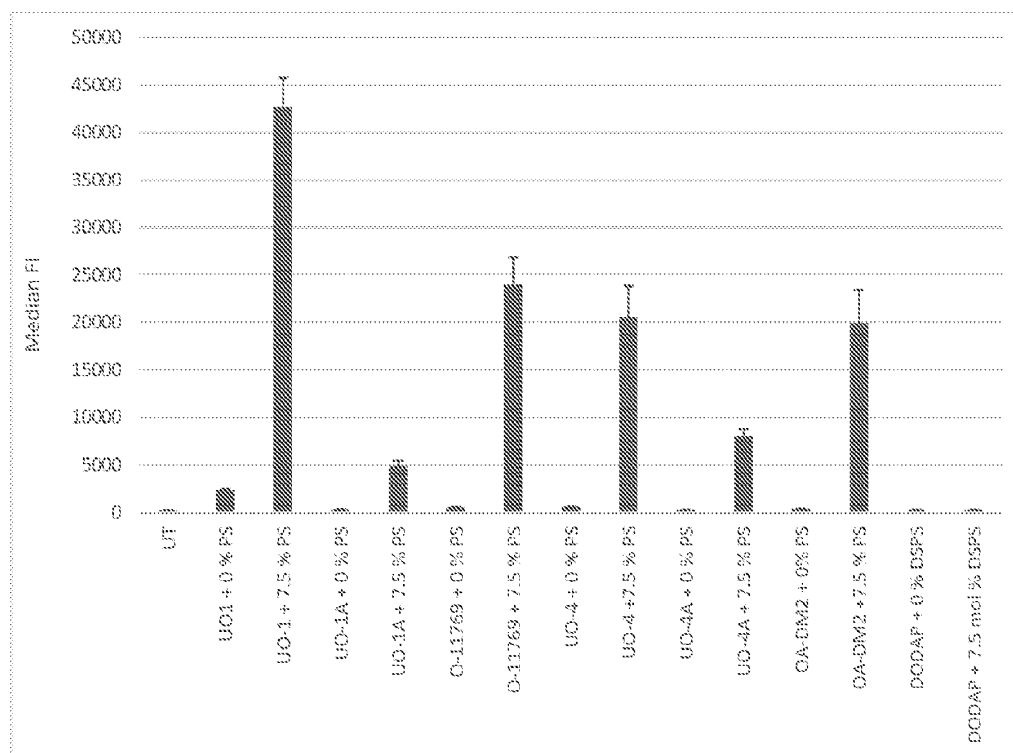


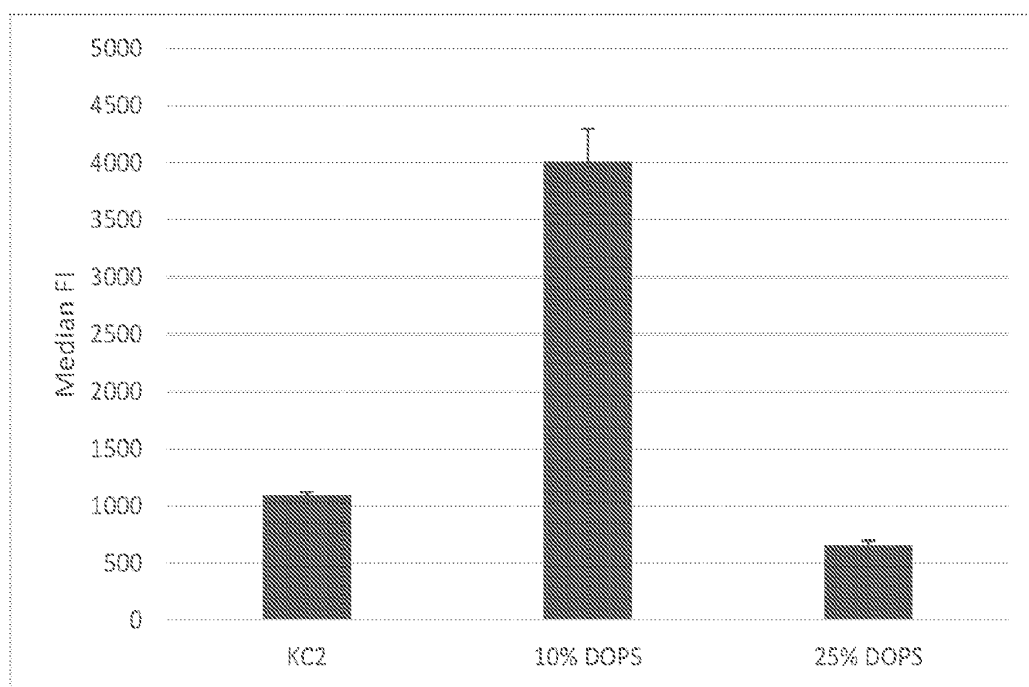
FIG. 12 (Example 21)

FIG. 13A (Example 22)

mVRN029 (SEQ ID NO: 2)

GGGAATAAACTAGTATTTCTTCTGGTCCCCACAGACTCAGAGAGAACCCGCCACCATGTTCTGTGTTCTCTGG
TGCTGCTGCCTCTGGTGTCCAGCCAGTGTGTGAACCTGACCACCAGAACACAGCTGCCTCCAGCCTACAC
CAACAGCTTTACCAGAGGCGTGACTACCCCGACAAGGTGTTTCAGATCCAGCGTGCTGCACTCTACCCAG
GACCTGTTCTCTGCTTTCTTTCAGCAACGTGACCTGGTTCCACGCCATCCACGTGTCCGGCACCAATGGCA
CCAAGAGATTGACAACCCCGTGCTGCCCTTCAACGACGGGGTGACTTTGCCAGCACCGAGAAGTCCAA
CATCATCAGAGGCTGGATCTTCGGCACCACACTGGACAGCAAGACCCAGAGCCTGCTGATCGTGAACAAC
GCCACCAACGTGGTCATCAAAGTGTGCGAGTTCCAGTTCTGCAACGACCCCTTCTCTGGGCGTCTACTACC
ACAAGAACAAACAAGAGCTGGATGGAAGCGAGTTCCGGGTGTACAGCAGCGCCAACAACTGCACCTTCGA
GTACGTGTCCCAGCCTTTCTGATGGACCTGGAAGGCAAGCAGGGCAACTTCAAGAACCTGCGCGAGTTC
GTGTTTAAAGAACATCGACGGCTACTTCAAGATCTACAGCAAGCACACCCCTATCAACCTCGTGCGGGATC
TGCCCTCAGGGCTTCTCTGCTCTGGAACCCCTGGTGGATCTGCCCATCGGCATCAACATCACCCGGTTTCA
GACACTGCTGGCCCTGCACAGAAGCTACCTGACACCTGGCGATAGCAGCAGCGGATGGACAGCTGGTGCC
GCCGCTTACTATGTGGGCTACCTGCAGCCTAGAACCTTCTGCTGAAGTACAACGAGAAGGCGACCATCA
CCGACGCCGTGGATTGTGCTCTGGATCCTCTGAGCGAGACAAAGTGCACCCCTGAAGTCCCTTACCCGTGGA
AAAGGGCATCTACCAGACCAGCAACTTCCGGGTGCGACCCACCGAATCCATCGTGCGGTTCCTCAATATC
ACCAATCTGTGCCCTTTCGGCGAGGTGTTCATGCCCACAGATTCGCCTCTGTGTACGCTGGAACCCGGA
AGCGGATCAGCAATTGCGTGGCCGACTACTCCGTGCTGTACAACCTCCGCCAGCTTCAGCACCTTCAAGTG
CTACGGCGTGTCCCTACCAAGCTGAACGACCTGTGCTTCACAAACGTGTACGCCGACAGCTTCGTGATC
CGGGGAGATGAAGTGCGGCAGATTGCCCTGGACAGACAGGCAAGATCGCCGACTACAACATAAGCTGC
CCGACGACTTCACCGCTGTGTGATTGCTTGAACAGCAACAACCTGGACTCCAAAGTTCGGCGGCAACTA
CAATTACCTGTACCGCTGTTCGGGAAGTCCAATCTGAAGCCCTTCGAGCGGGACATCTCCACCGAGATC
TATCAGGCCCGCAGCACCCCTTGTAAACGGCGTGGAAGGCTTCAACTGCTACTTCCCACTGCAGTCTACG
GCTTTTCAGCCCACAAATGGCGTGGGCTATCAGCCCTACAGAGTGGTGGTGTGAGCTTCGAACCTGTGCA
TGCCCTTGCCACAGTGTGCGGCCCTAAGAAAAGCACCAATCTCGTGAAGAACAAATGCGTGAACCTCAAC
TTCAACGGCCTGACCGGCACCGCGTGCTGACAGAGAGCAACAAGAAGTTCCTGCCATTCCAGCAGTTTG
GCCGGGATATCGCCGATACCACAGACGCCGTTAGAGATCCCCAGACACTGGAATCCTGGACATCACCCC
TTGCGAGCTTCGGCGGAGTGTCTGTGATCACCCCTGGCACCAACACCAGCAATCAGGTGGCAGTGTGTAC
CAGGACGTGAACGTGTACCGAAGTGCCCGTGGCCATTACGCGCGATCAGCTGACACCTACATGGCGGGTGT
ACTCCACCGGCAGCAATGTGTTTCAGACCAGAGCCGGCTGTCTGATCGGAGCCGAGCACGTGAACAATAG
CTACGAGTGCAGATCCCCATCGGCGCTGGAATCTGCGCCAGCTACCAGACACAGACAAACAGCCCTCGG
AGAGCCAGAAGCGTGGCCAGCCAGAGCATCATTCCTACACAATGTCTCTGGGCGCCGAGAACAGCGTGG
CCTACTCCAACAACCTATCGCTATCCCCACCAACTTCACCATCAGCGTGACCACAGAGATCCTGCCTGT
GTCCATGACCAAGACCAGCGTGACTGCACCATGTACATCTGCGGCGATTCCACCGAGTGCTCCAACCTG
CTGCTGCAGTACGGCAGCTTCTGCACCCAGCTGAATAGAGCCCTGACAGGGATCGCCGTGGAACAGGACA
AGAACACCCAAGAGGTGTTTCGCCCAAGTGAAGCAGATCTACAAGACCCCTCCTATCAAGGACTTCGGCGG
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TTCAACAAAGTGACACTGGCCGACGCCGGCTTTCATCAAGCAGTATGGCGATTGTCTGGGCGACATTGCCG
CCAGGGATCTGATTGCGCCAGAGTTTAACGGACTGACAGTGTGCTCCTCTGCTGACCGATGAGAT
GATCGCCAGTACACATCTGCCCTGCTGGCCGGCACCAATCACAAGCGGCTGGACATTGGAGCAGGCGCC
GCTCTGCAGATCCCCCTTGTCTATGCAGATGGCCTACCGGTTCAACGGCATCGGAGTGACCCAGAATGTGC
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CAGCACAGCAAGCGCCCTGGGAAAGCTGCAGGACGTGGTCAACCAGAATGCCAGGCACTGAACACCCCTG
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CTCCTGAGGCCGAGGTGCAGATCGACAGACTGATCACAGGCGACTGCAGAGCCTCCAGACATACGTGAC
CCAGCAGCTGATCAGAGCCGCCGAGATTAGAGCCTCTGCCAATCTGGCCGCCACCAAGATGTCTGAGTGT
GTGCTGGGCCAGAGCAAGAGAGTGGACTTTTGGCGCAAGGGCTACCACCTGATGAGCTTCCCTCAGTCTG
CCCCTCACGGCGTGGTGTCTTCTGCACGTGACATATGTGCCCGCTCAAGAGAAGAATTTCAACACCGCTCC

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FIG. 13A (Example 22) Continued

AGCCATCTGCCACGACGGCAAAGCCCACCTTTCCTAGAGAAGGCGTGTTCGTGTCCAACGGCACCCATTGG
TTCGTGACACAGCGGAACCTTCTACGAGCCCCAGATCATCACCACCGACAACACCTTCGTGTCTGGCAACT
GCGACGTCGTGATCGGCATTGTGAACAATAACCGTGTACGACCCCTCTGCAGCCCGAGCTGGACAGCTTCAA
AGAGGAACTGGACAAGTACTTTAAGAACCACACAAGCCCCGACGTGGACCTGGGCGATATCAGCGGAATC
AATGCCAGCGTCGTGAACATCCAGAAAGAGATCGACCGGCTGAACGAGGTGGCCAAGAATCTGAACGAGA
GCCTGATCGACCTGCAAGAACTGGGGAAGTACGAGCAGTACATCAAGTGGCCCTGGTACATCTGGCTGGG
CTTTATCGCCGACTGATTGCCATCGTGATGGTCACAATCATGCTGTGTTGCATGACCAGCTGCTGTAGC
TGCCCTGAAGGGCTGTTGTAGCTGTGGCAGCTGCTGCAAGTTCGACGAGGACGATTCTGAGCCCGTGTGA
AGGGCGTGAAACTGCACTACACATGATGACTCGAGCTGGTACTGCATGCACGCAATGCTAGCTGCCCCCTT
TCCCCGTCTGGGTACCCCGAGTCTCCCCCGACCTCGGGTCCCAGGTATGCTCCCACCTCCACCTGCCCCA
CTCACCACCTCTGCTAGTTCCAGACACCTCCCAAGCAGCAGCAATGCAGCTCAAAACGCTTAGCCTAGC
CACACCCCCACGGGAAACAGCAGTGATTAACCTTTAGCAATAAACGAAAGTTTAACCTAAGCTATACTAAC
CCCAGGGTTGGTCAATTTTCGTGCCAGCCACACCCTGGAGCTAGCAGCGGCCGCGGCCGCAAAAAAAAAA
AA
AA

FIG. 13B (Example 22)

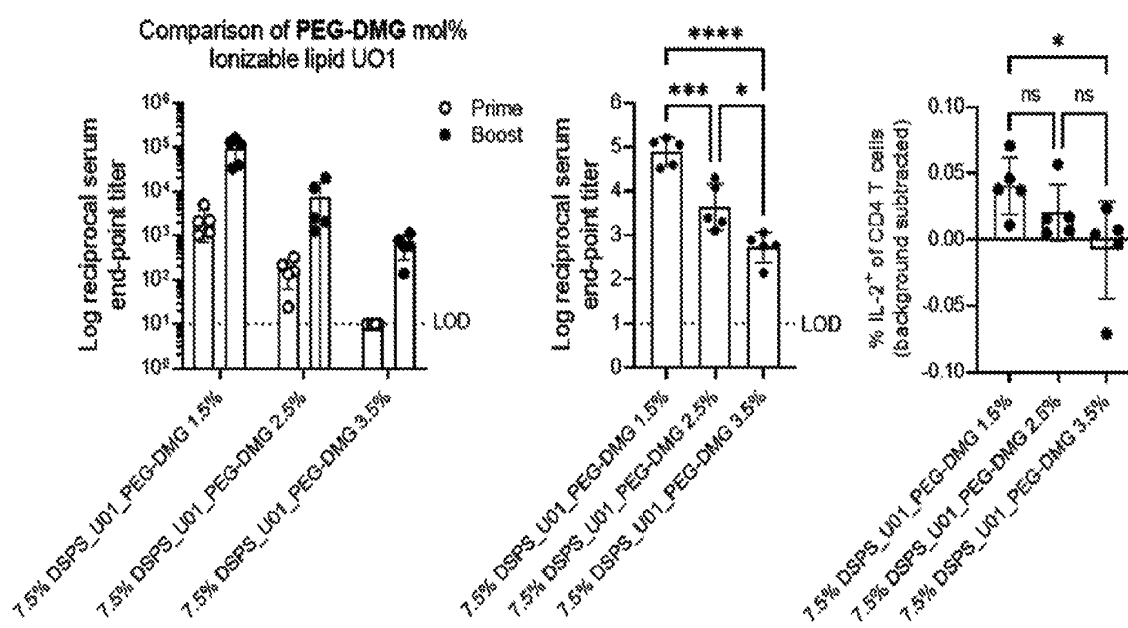


FIG. 13C (Example 22).

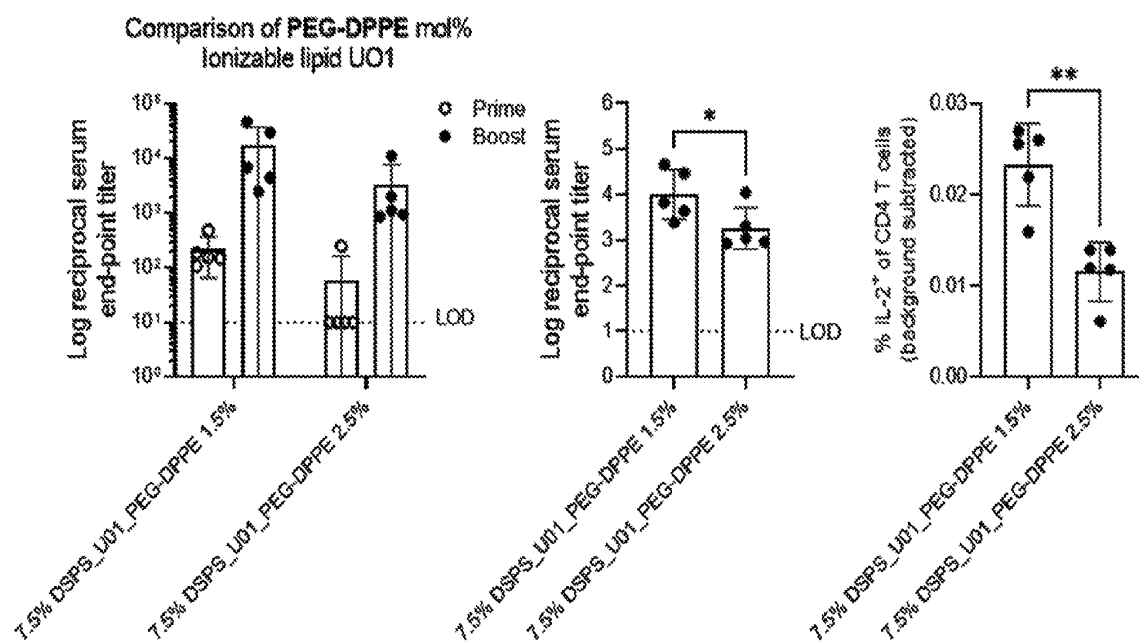


FIG. 13D (Example 22).

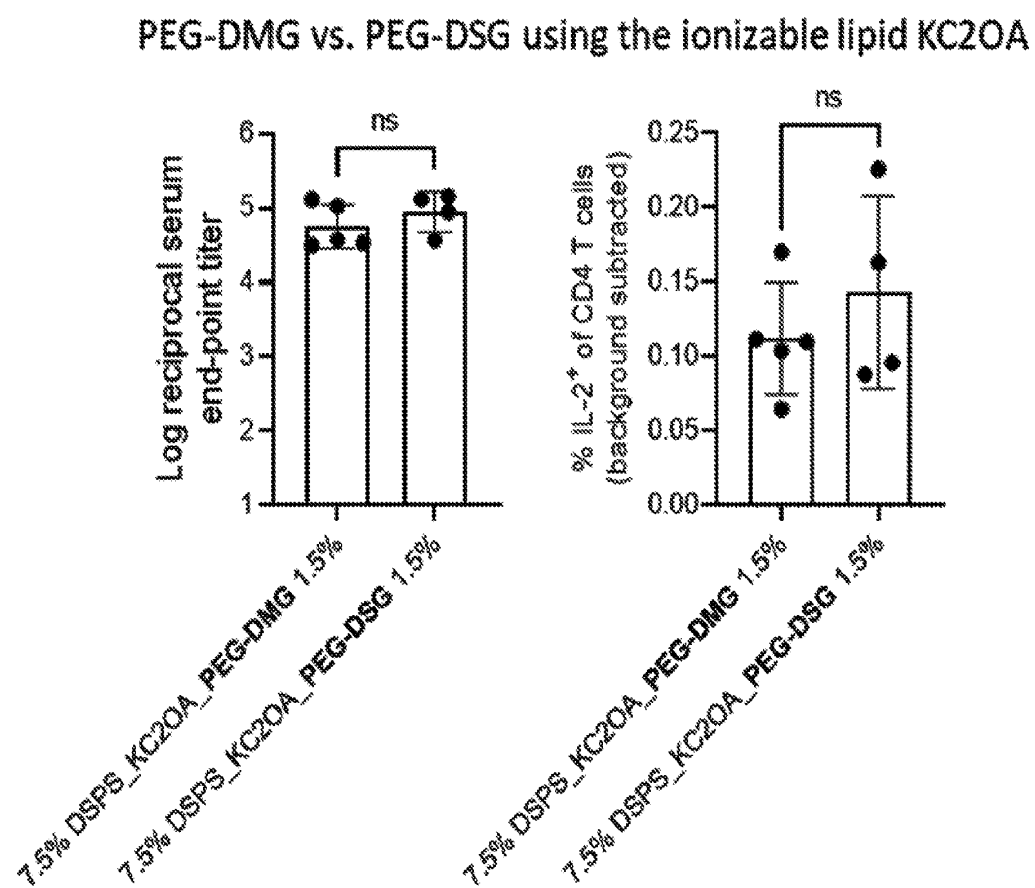
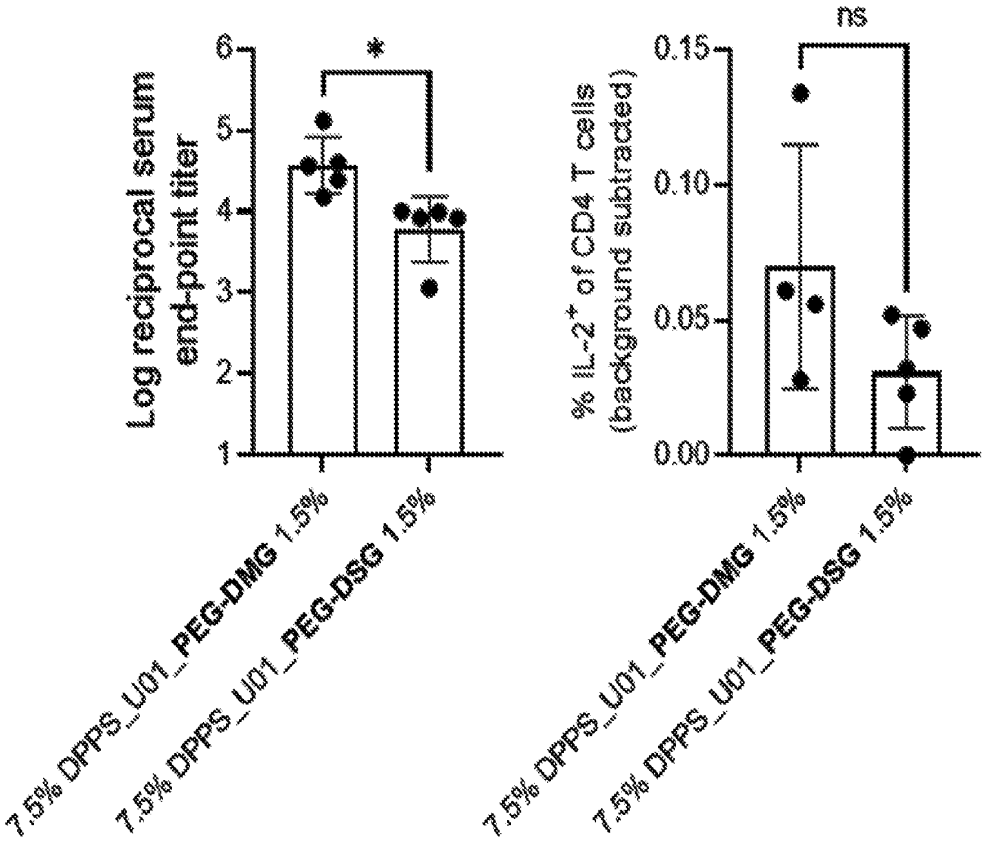


FIG. 13E (Example 22)

PEG-DMG vs. PEG-DSG using the ionizable lipid UO1



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FIG. 13F (Example 22).

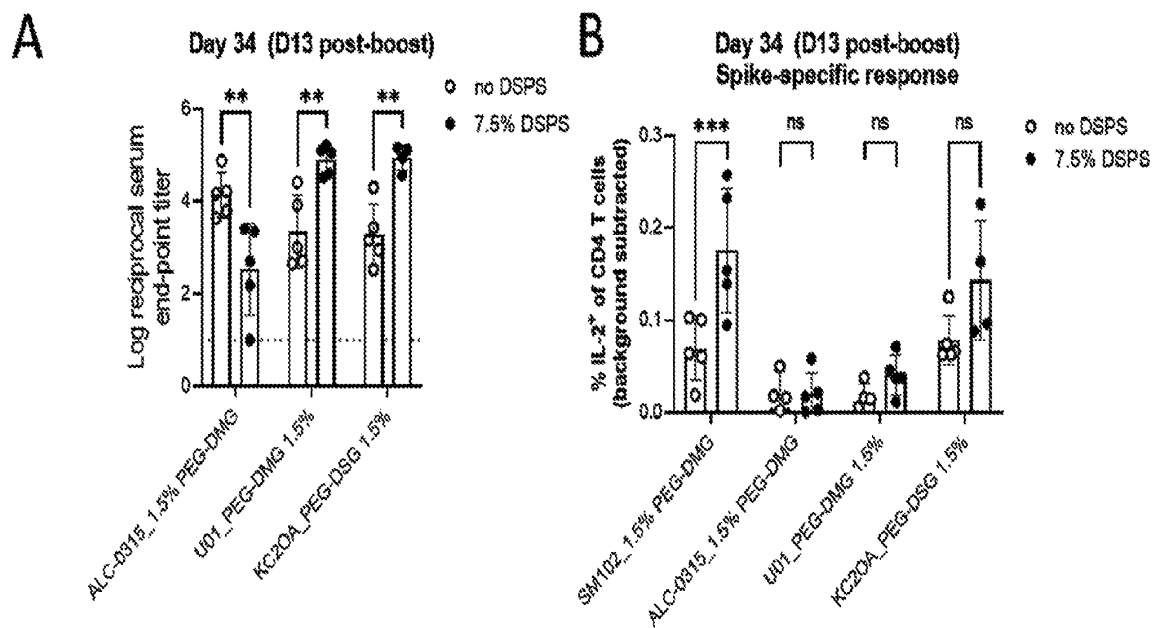


FIG. 13G (Example 22).

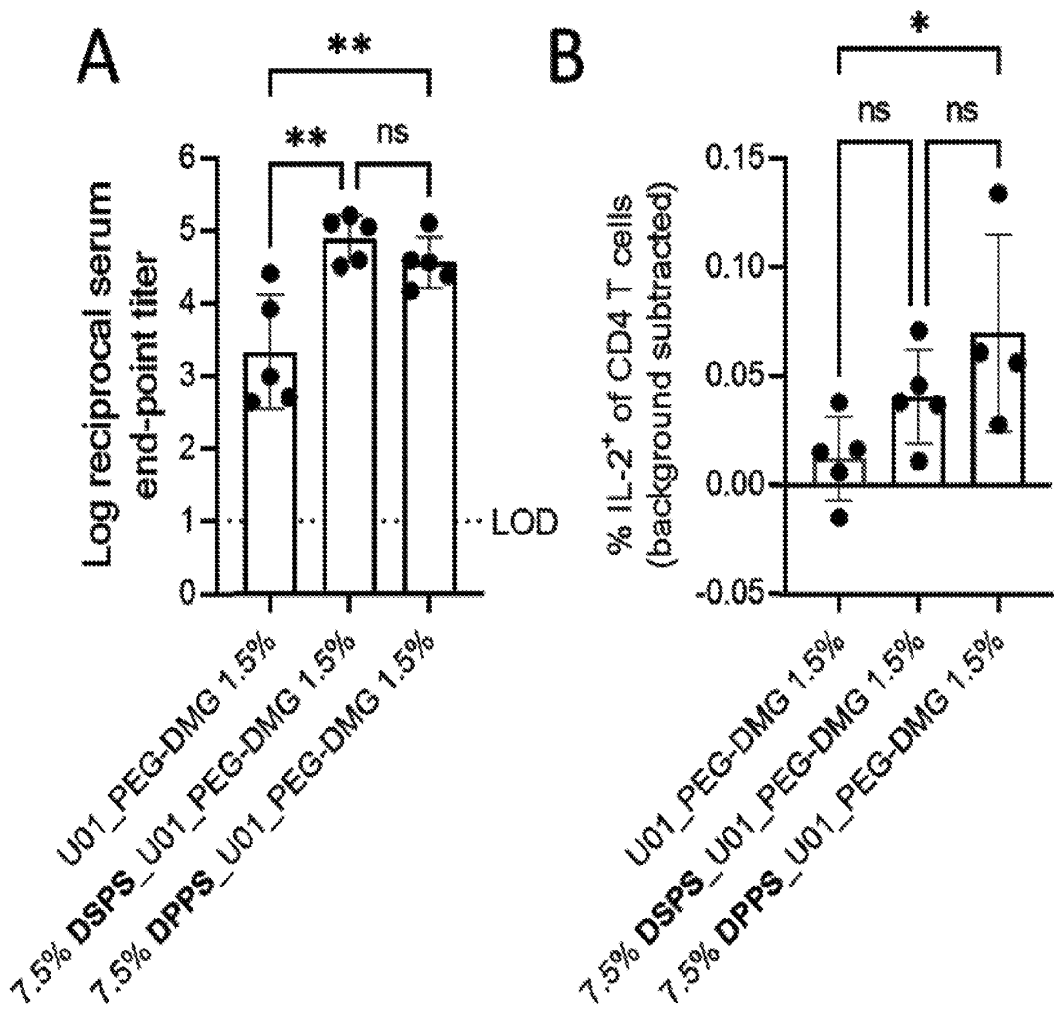


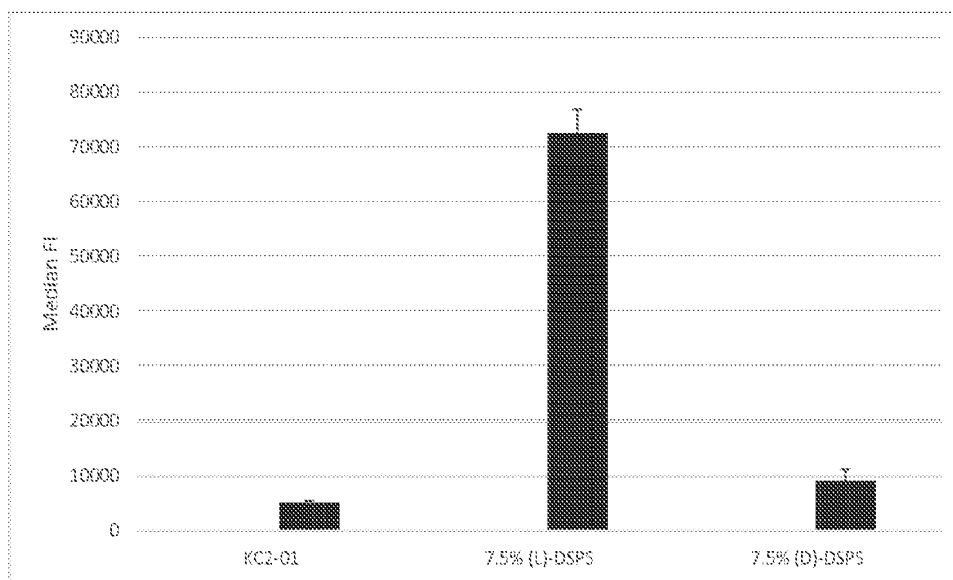
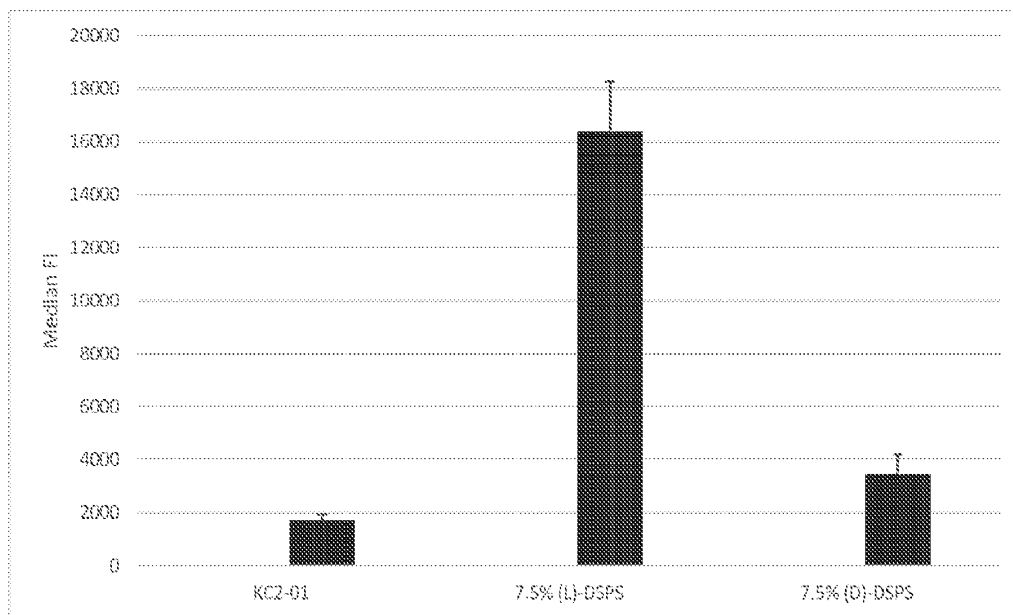
FIG. 14A (Example 23).**FIG. 14B (Example 23).**

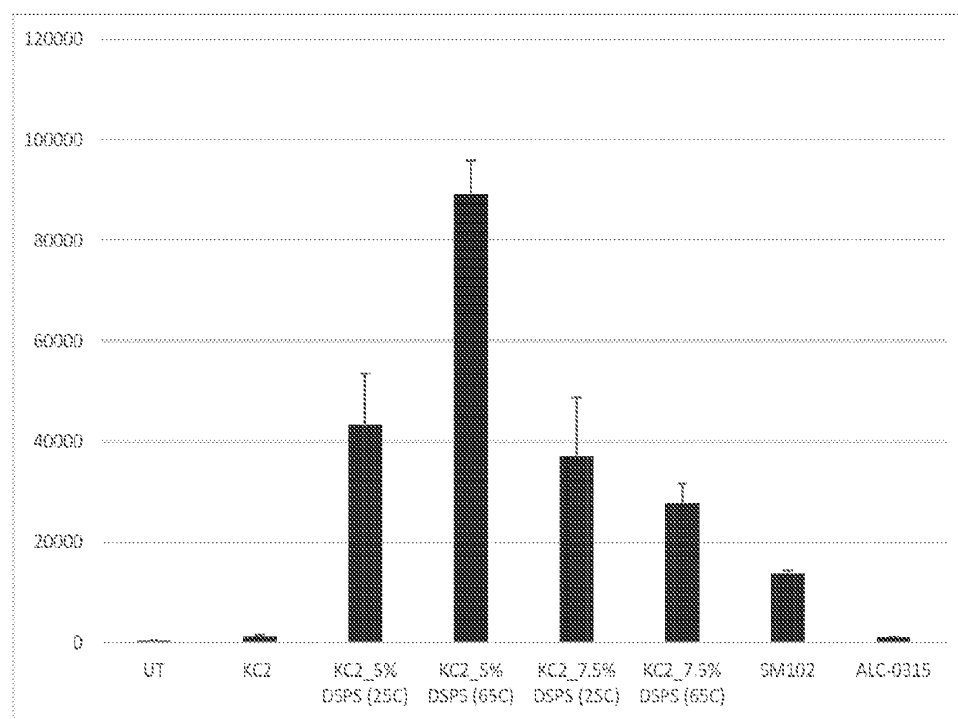
FIG. 15 (Example 24).

FIG. 16 (Example 25).

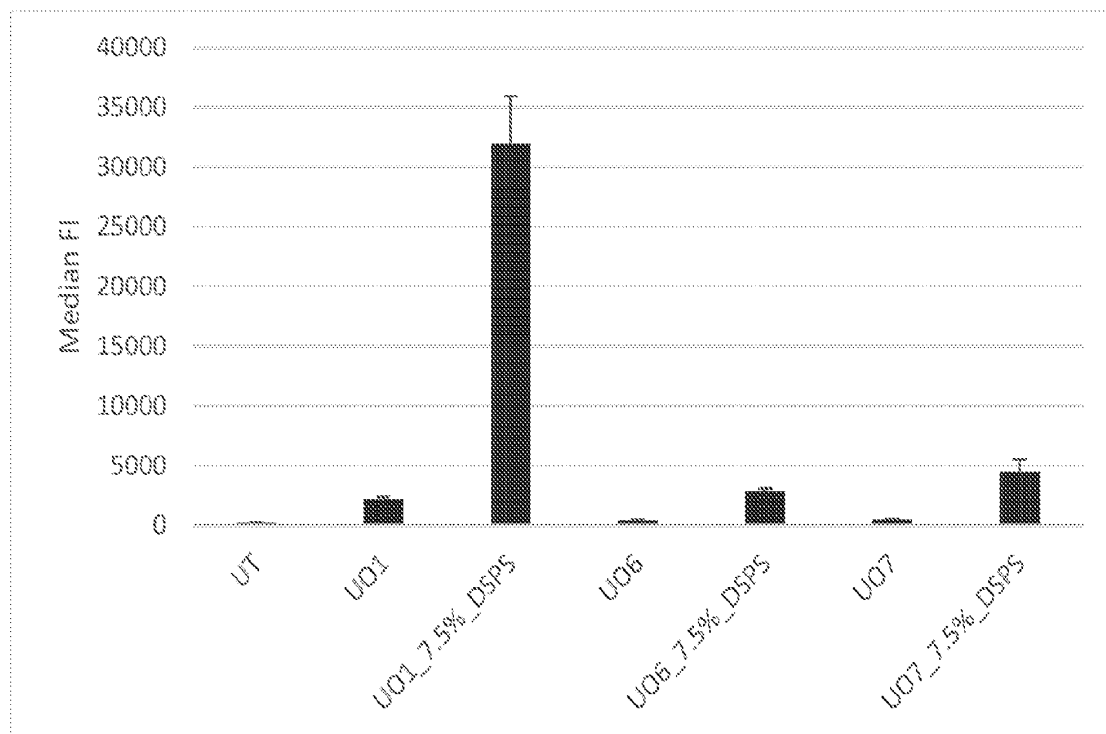


FIG. 17 (Example 26).

