

FIG. 1

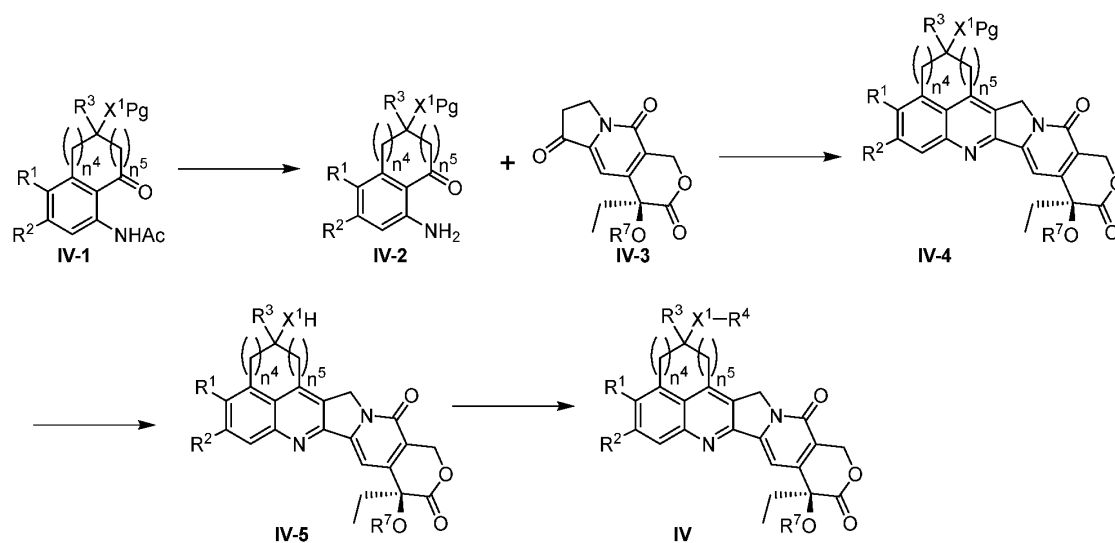


FIG. 2

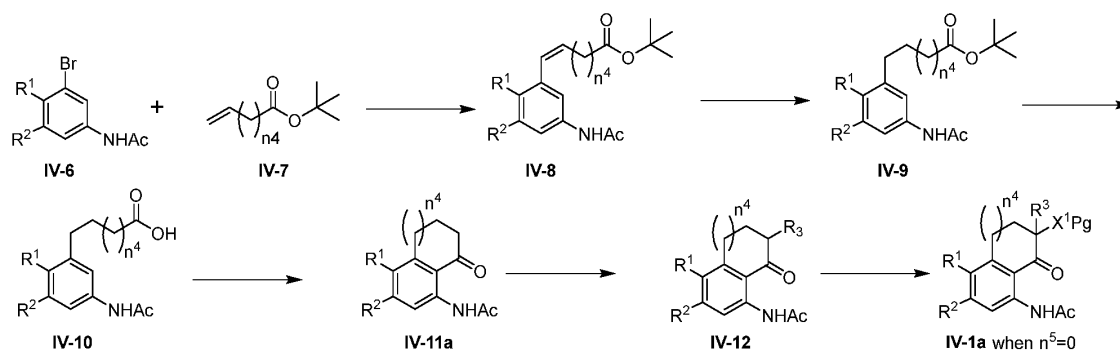


FIG. 3

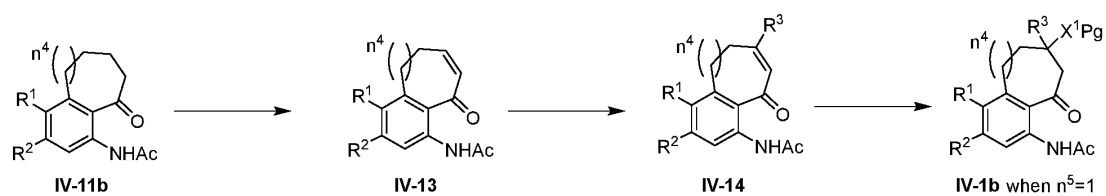


FIG. 4

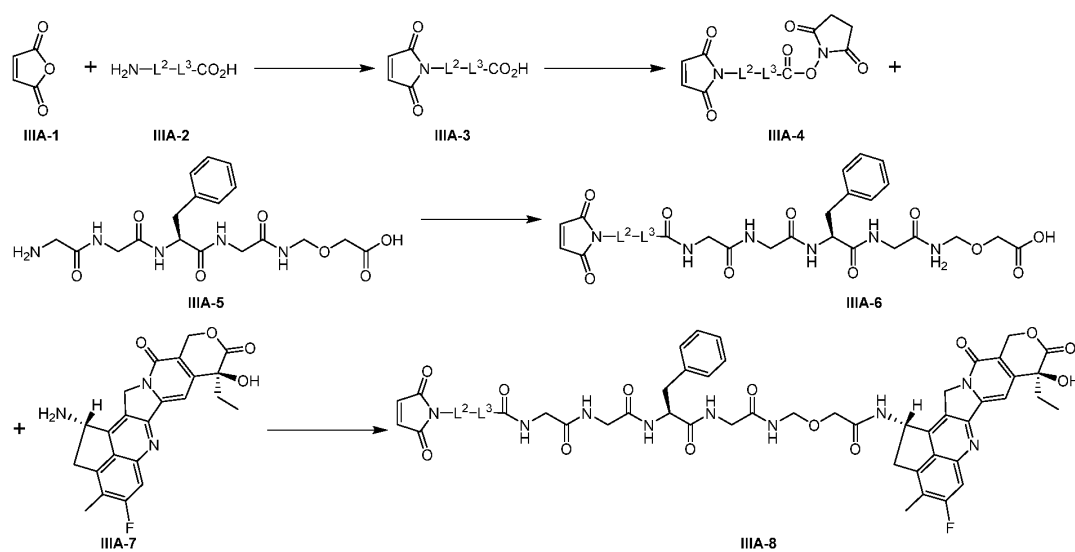


FIG. 5

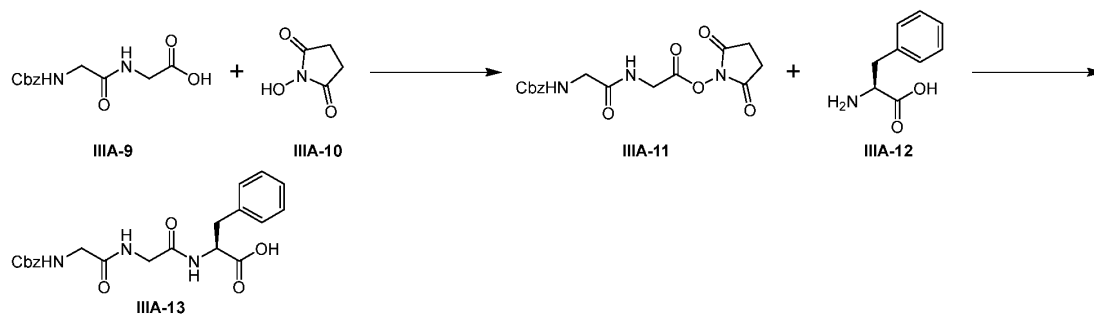


FIG. 6

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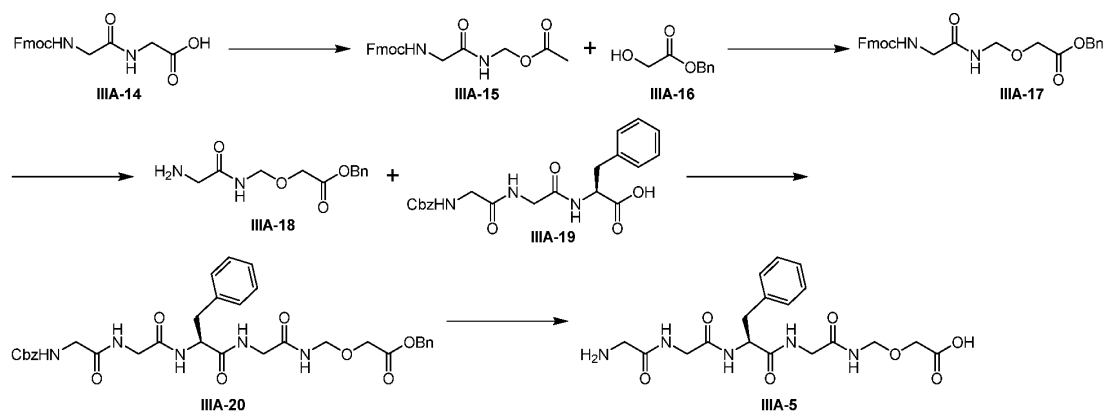


FIG. 7

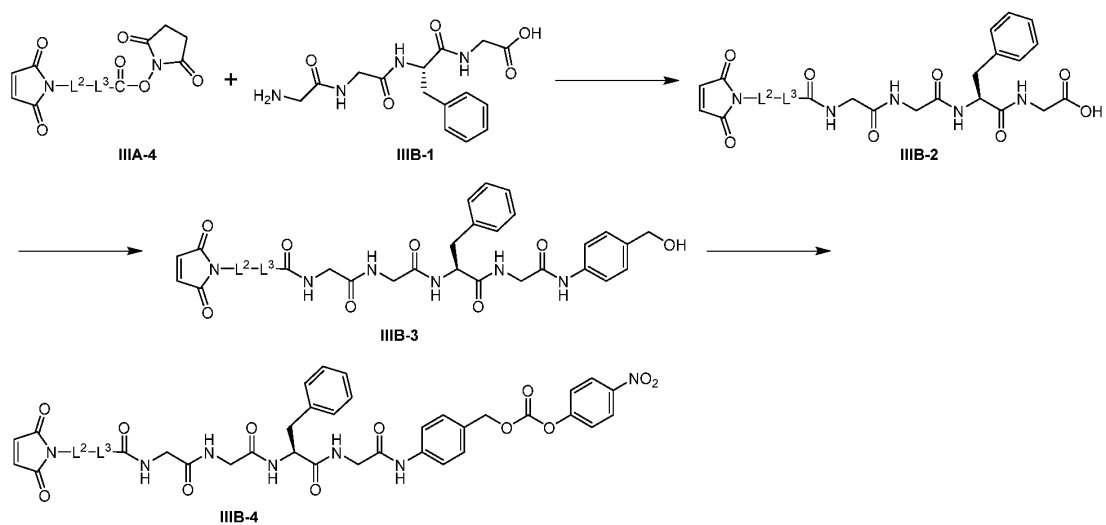


FIG. 8

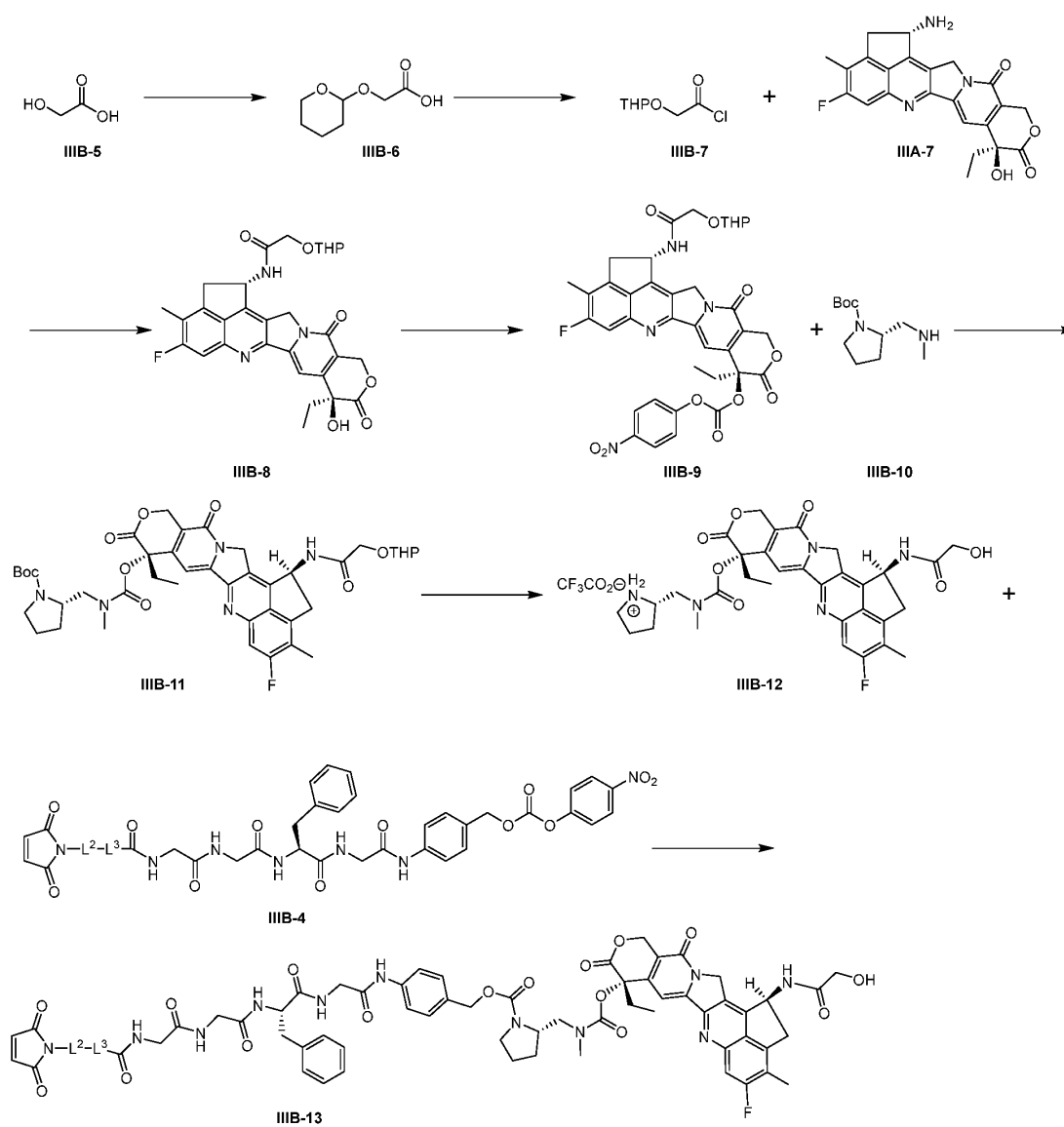


FIG. 9

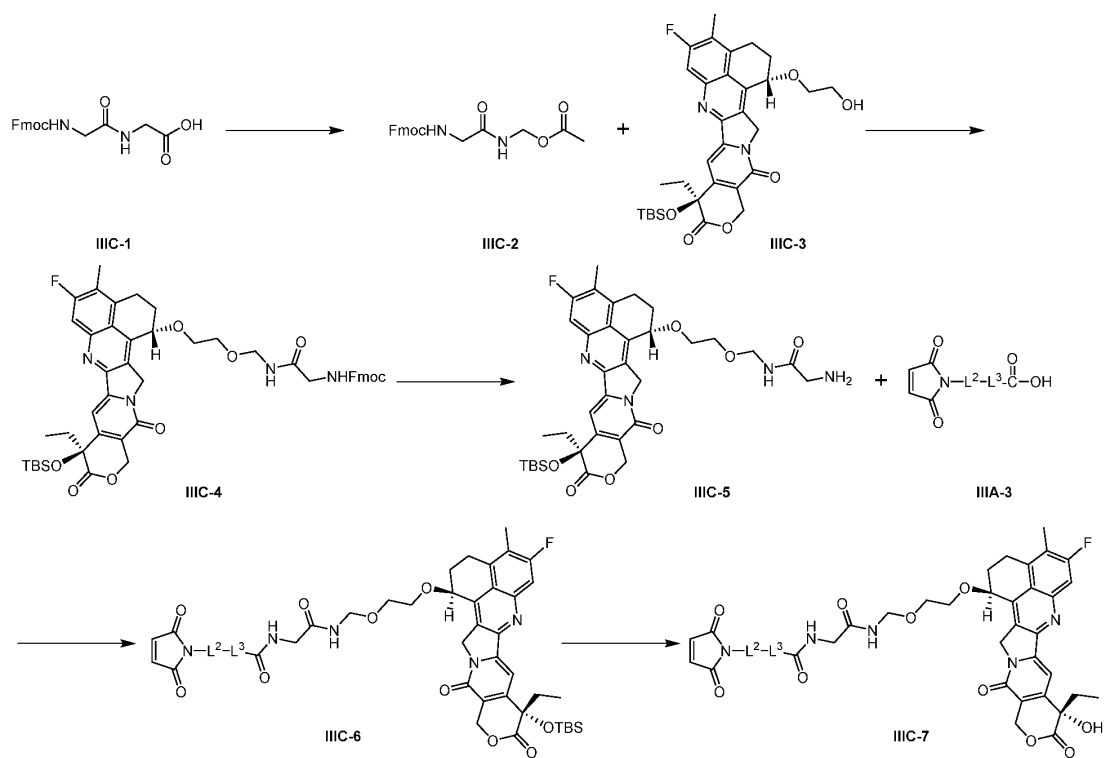


FIG. 10

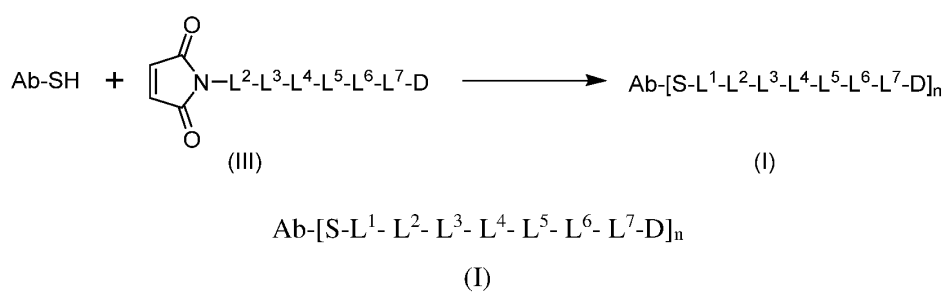


FIG. 11

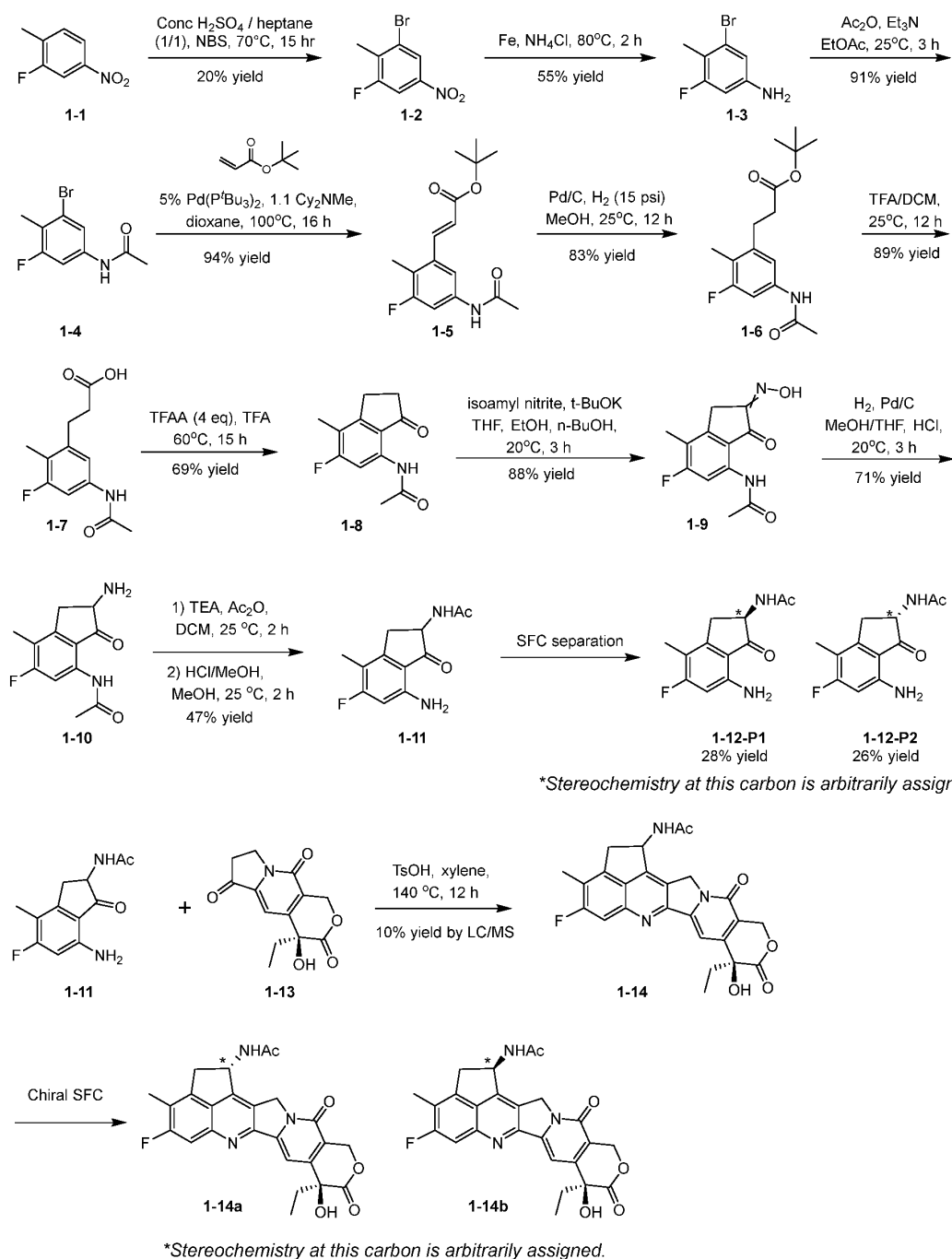


FIG. 12

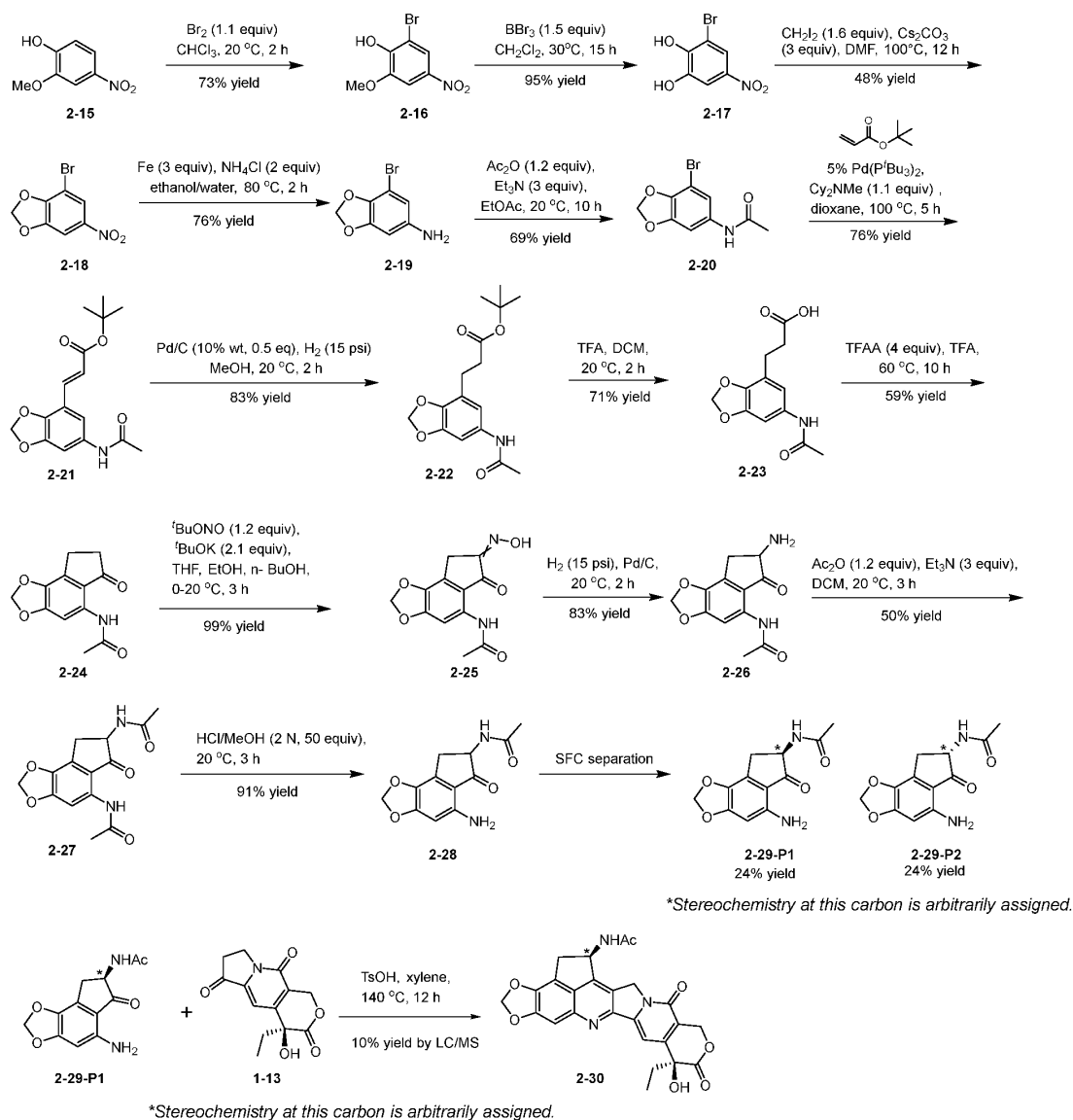
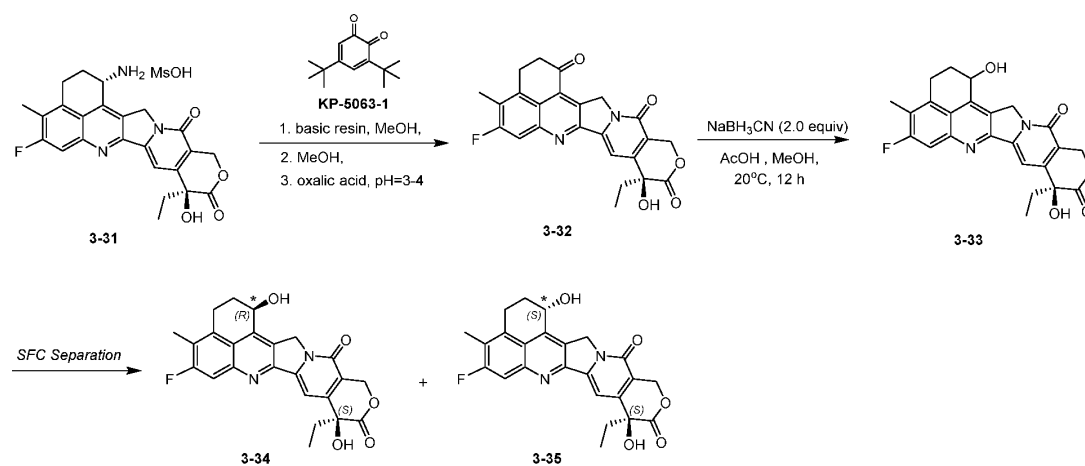
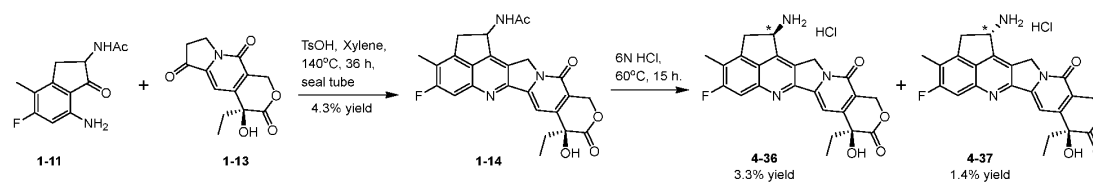


FIG. 13



*Stereochemistry at this carbon is arbitrarily assigned.

FIG. 14



*Stereochemistry at this carbon is arbitrarily assigned.

FIG. 15

1-2 $\xrightarrow{\text{Pt/C, H}_2, \text{EtOAc}}$ **1-3** (77% yield) $\xrightarrow{\text{Ac}_2\text{O, Et}_3\text{N, EtOAc, 15}^\circ\text{C, 12 h}}$ **1-4** (55% yield) $\xrightarrow{\text{DIEA, Pd(OAc)}_2, (\text{o-Tol})_3\text{P, THF, H}_2\text{O}}$ **5-38** (49% yield)

5-38 $\xrightarrow{\text{Pd/C, H}_2 (15 \text{ Psi}), \text{MeOH}}$ **5-39** (82% yield) $\xrightarrow{\text{TFAA, TFA}}$ **5-40** (88% yield) $\xrightarrow{\text{KOH, PIDA, MeOH, 0}^\circ\text{C} \sim 15^\circ\text{C, 3 h, Ar}}$ **5-41** (66% yield) $\xrightarrow{\text{Ag}_2\text{O, CH}_3\text{CN, 40}^\circ\text{C, 5 h, Ar}}$ **5-42** (81% yield)

5-42 $\xrightarrow{\text{O}_3 (1 \text{ atm}), \text{Me}_2\text{S, DCM/MeOH (2/1), -70}^\circ\text{C} \sim 15^\circ\text{C, 1 h}}$ **5-43** (60% yield) $\xrightarrow{\text{NaBH}_4, \text{THF/H}_2\text{O} (2/1), 0^\circ\text{C} \sim 20^\circ\text{C}}$ **5-44** (61% yield) $\xrightarrow{\text{HCl (2 N), MeOH, 15}^\circ\text{C, 18 h, Ar}}$ **5-45** (78% yield)

5-45 $\xrightarrow{\text{HCl (2 N), MeOH, 15}^\circ\text{C, 18 h, Ar}}$ **5-46** (43% yield) $\xrightarrow{\text{SFC}}$ **5-47** (43% yield) $\xrightarrow{\text{SFC}}$ **5-48** (32% yield)

1-13 $\xrightarrow{\text{o-cresol, PPTS, PhMe, Dean-Stark, 120}^\circ\text{C, 13 h, Ar}}$ **5-46** (yield 43%) (dr = 0.63/0.37)

5-47 (yield 43%) **5-48** (yield 32%)

**Stereochemistry at this carbon is arbitrarily assigned.*

FIG. 16

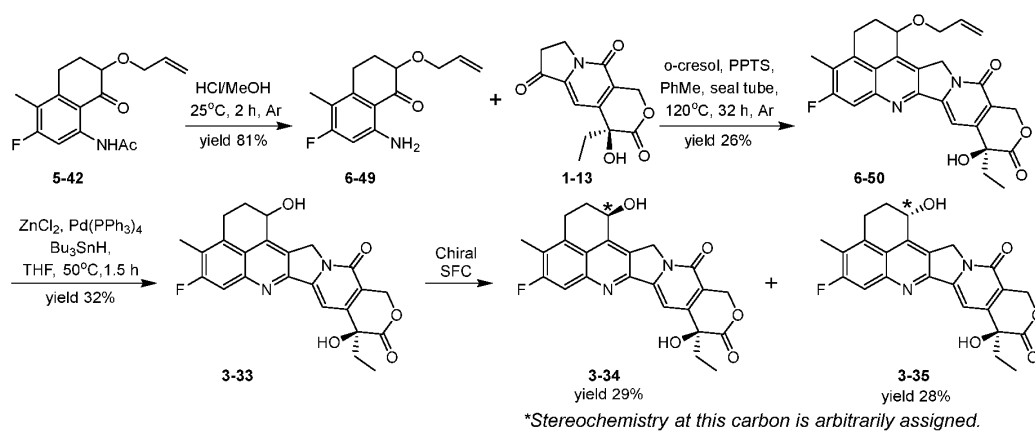
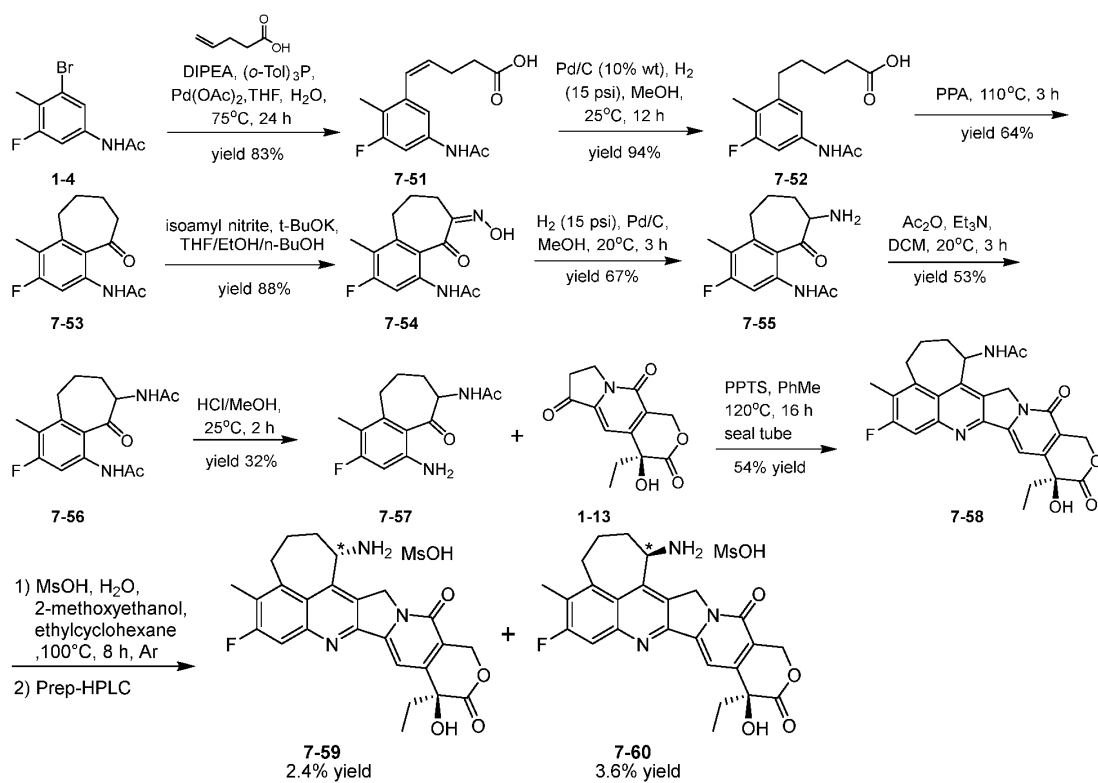


FIG. 17



*Stereochemistry at this carbon is arbitrarily assigned.

FIG. 18

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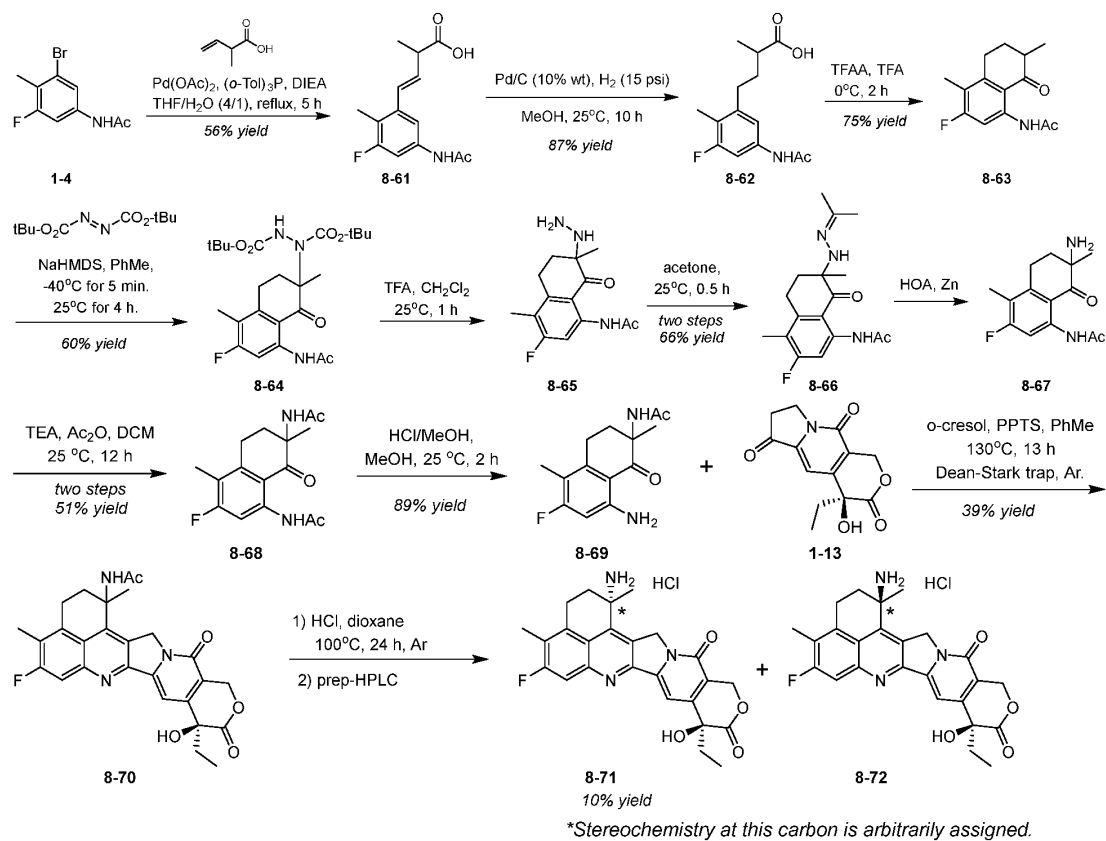


FIG. 19

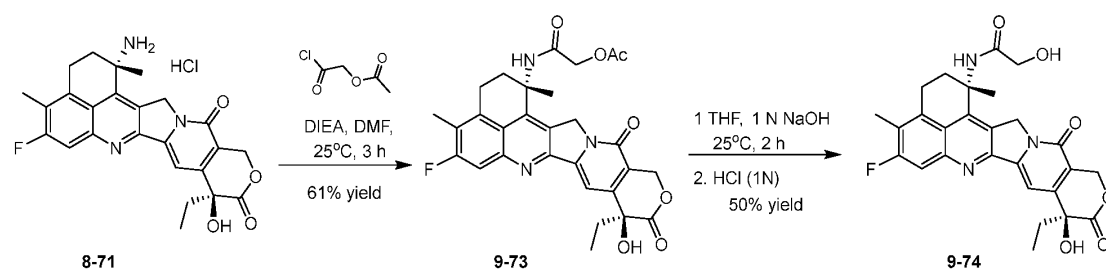


FIG. 20

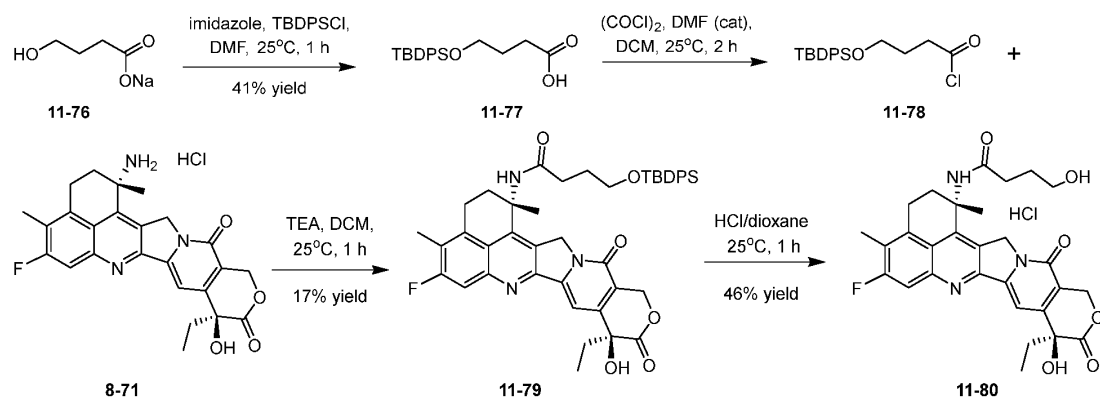
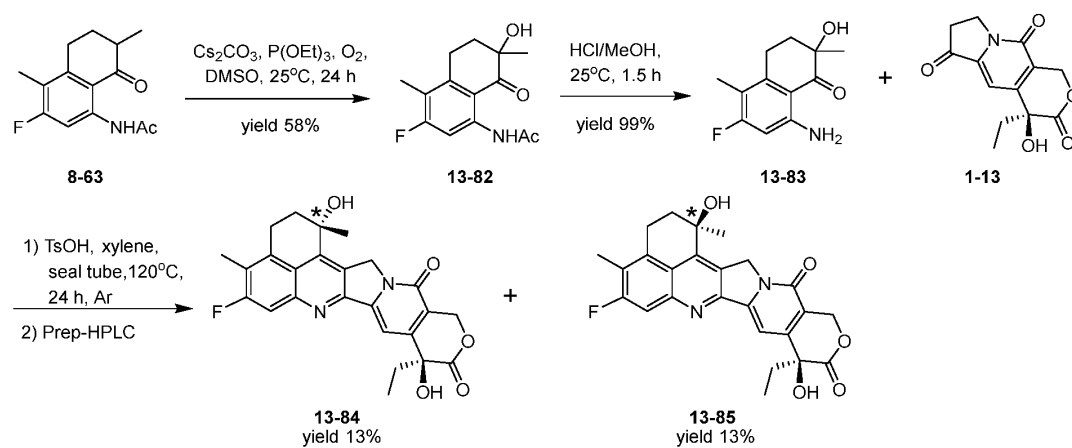


FIG. 21



*Stereochemistry at this carbon is arbitrarily assigned.

FIG. 22

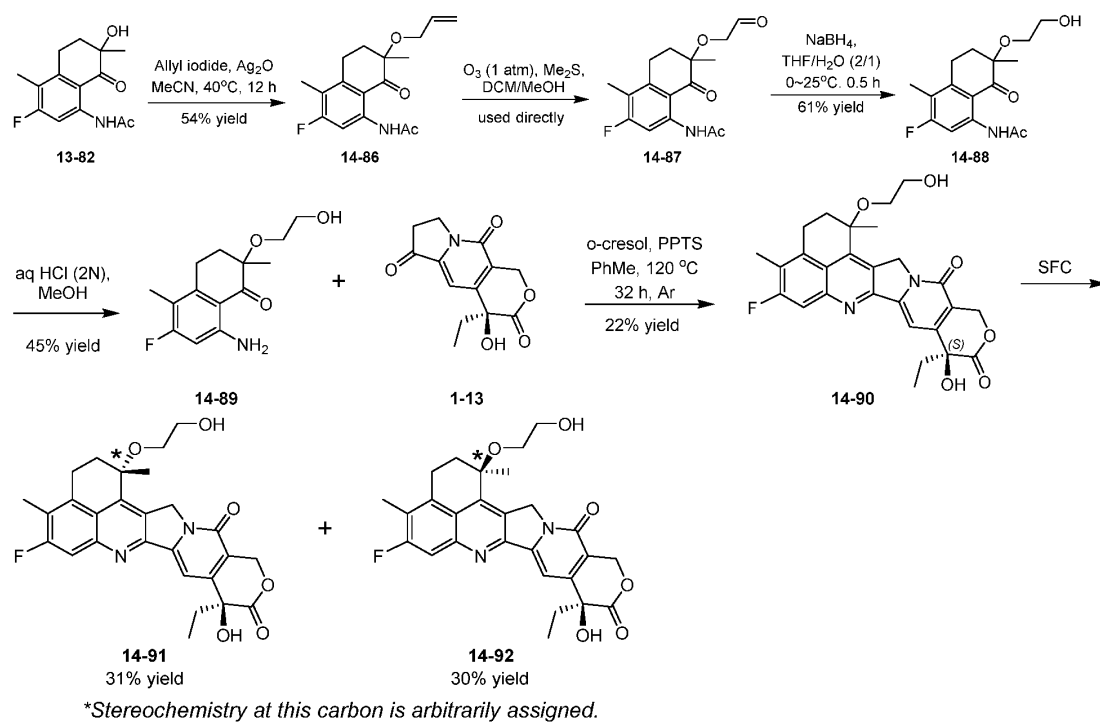


FIG. 23

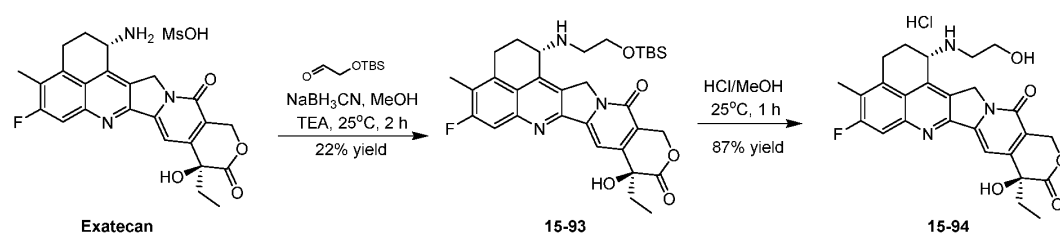


FIG. 24

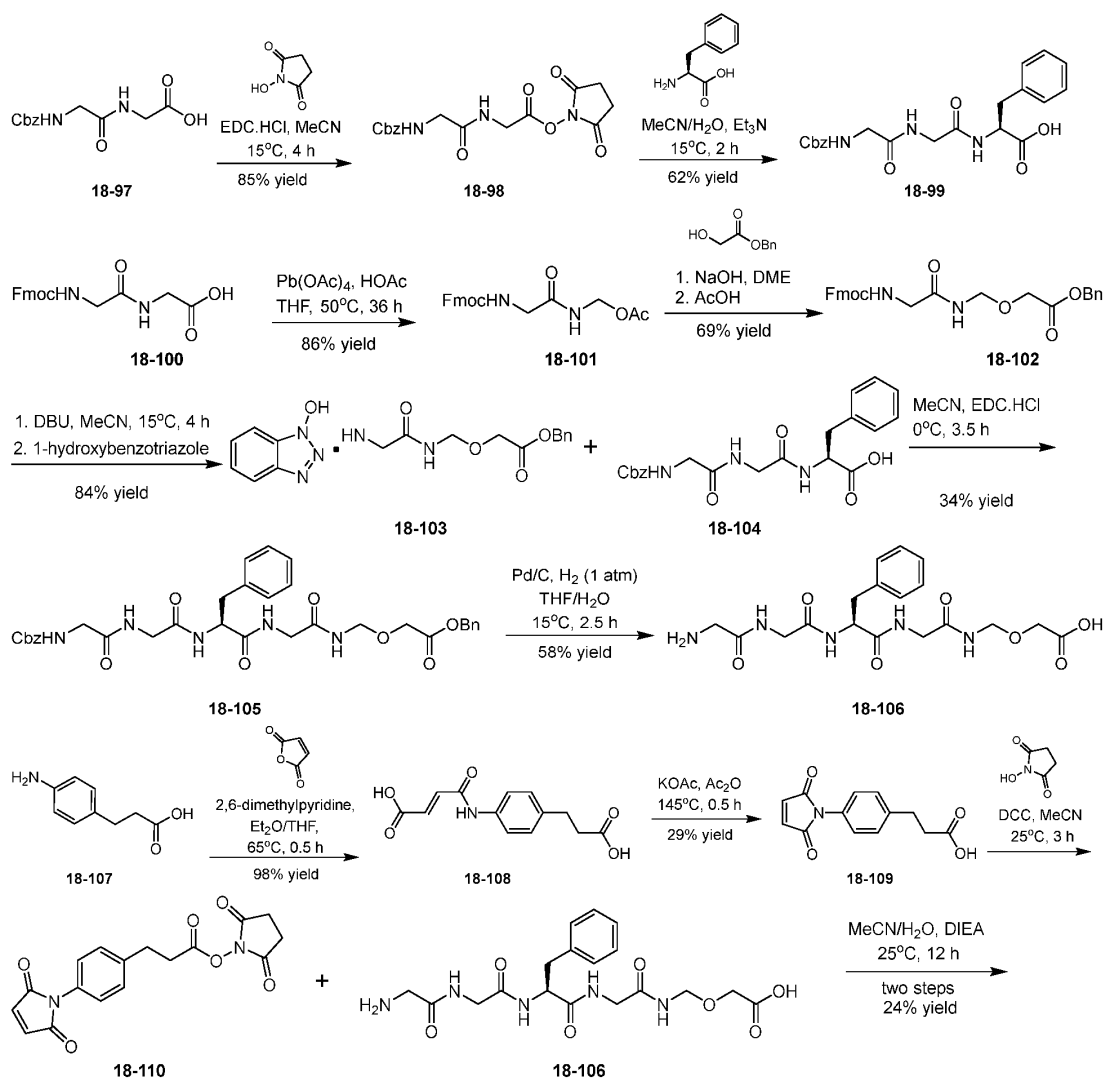


FIG. 25

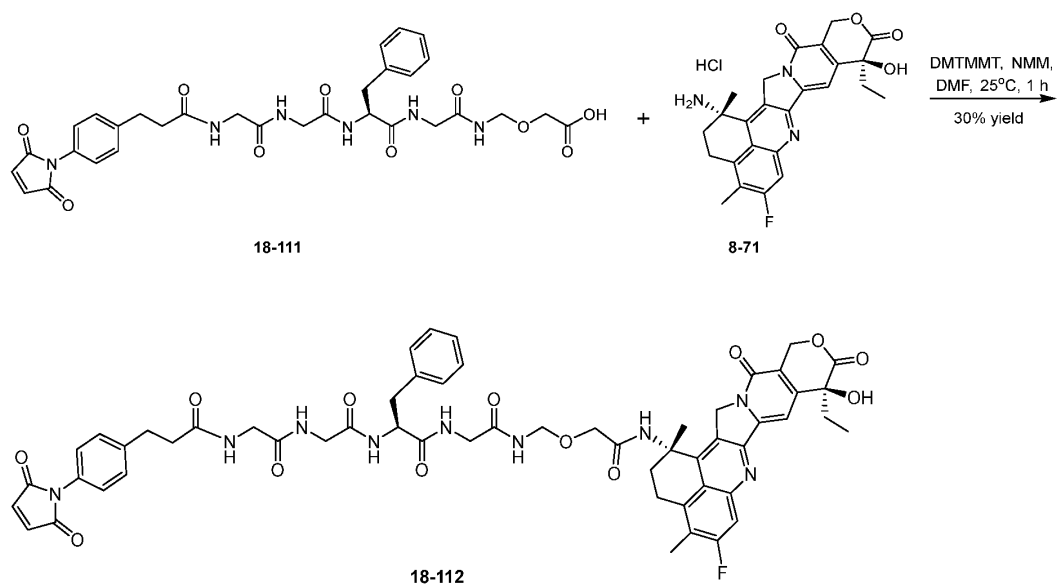


FIG. 25 (continued)

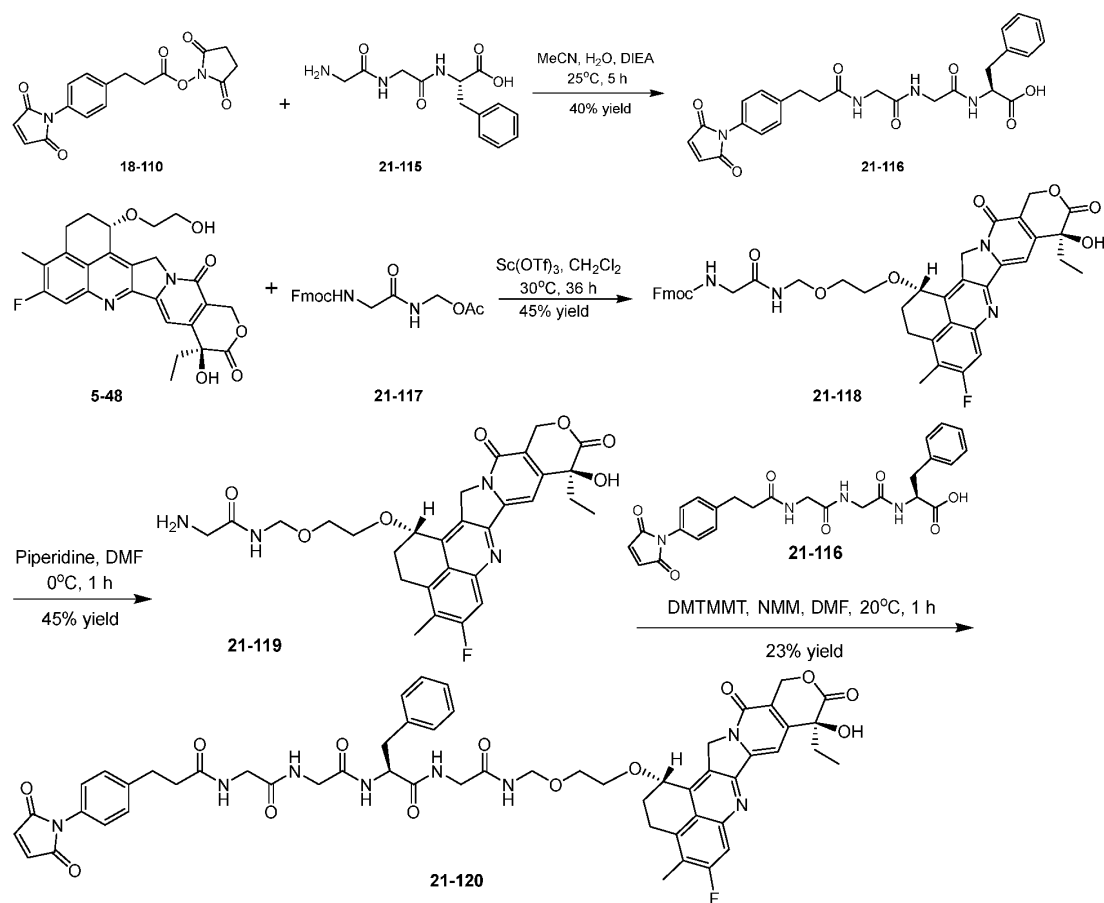


FIG. 26

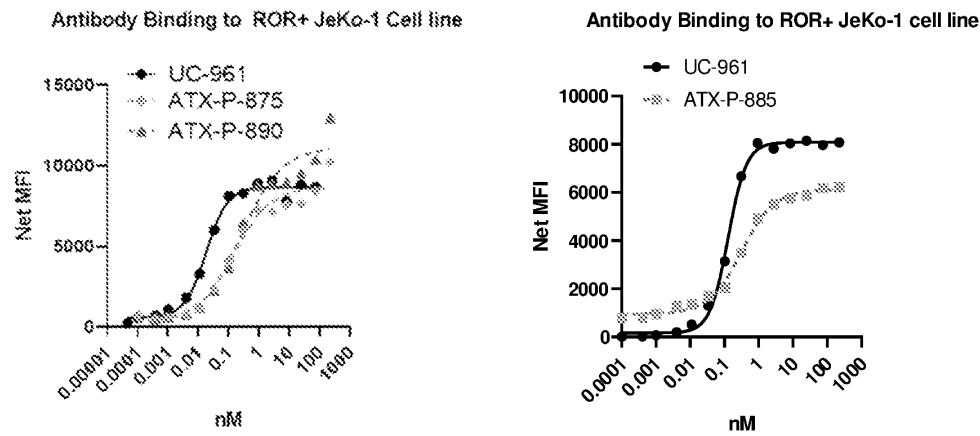


FIG. 27

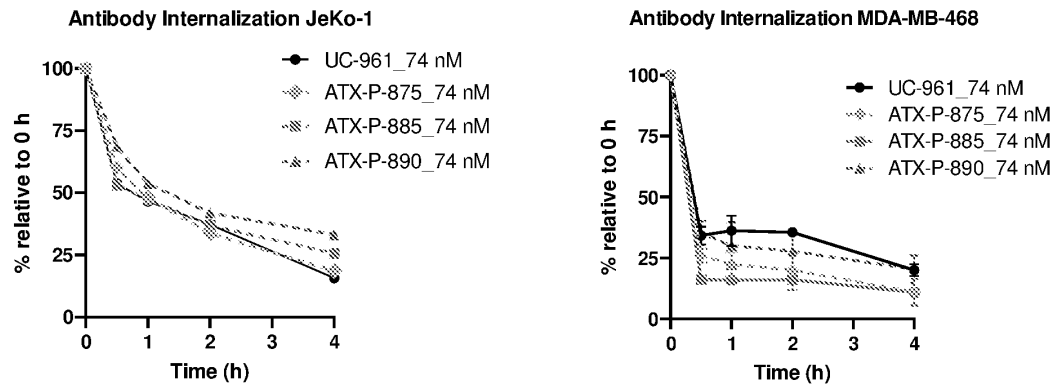


FIG. 28

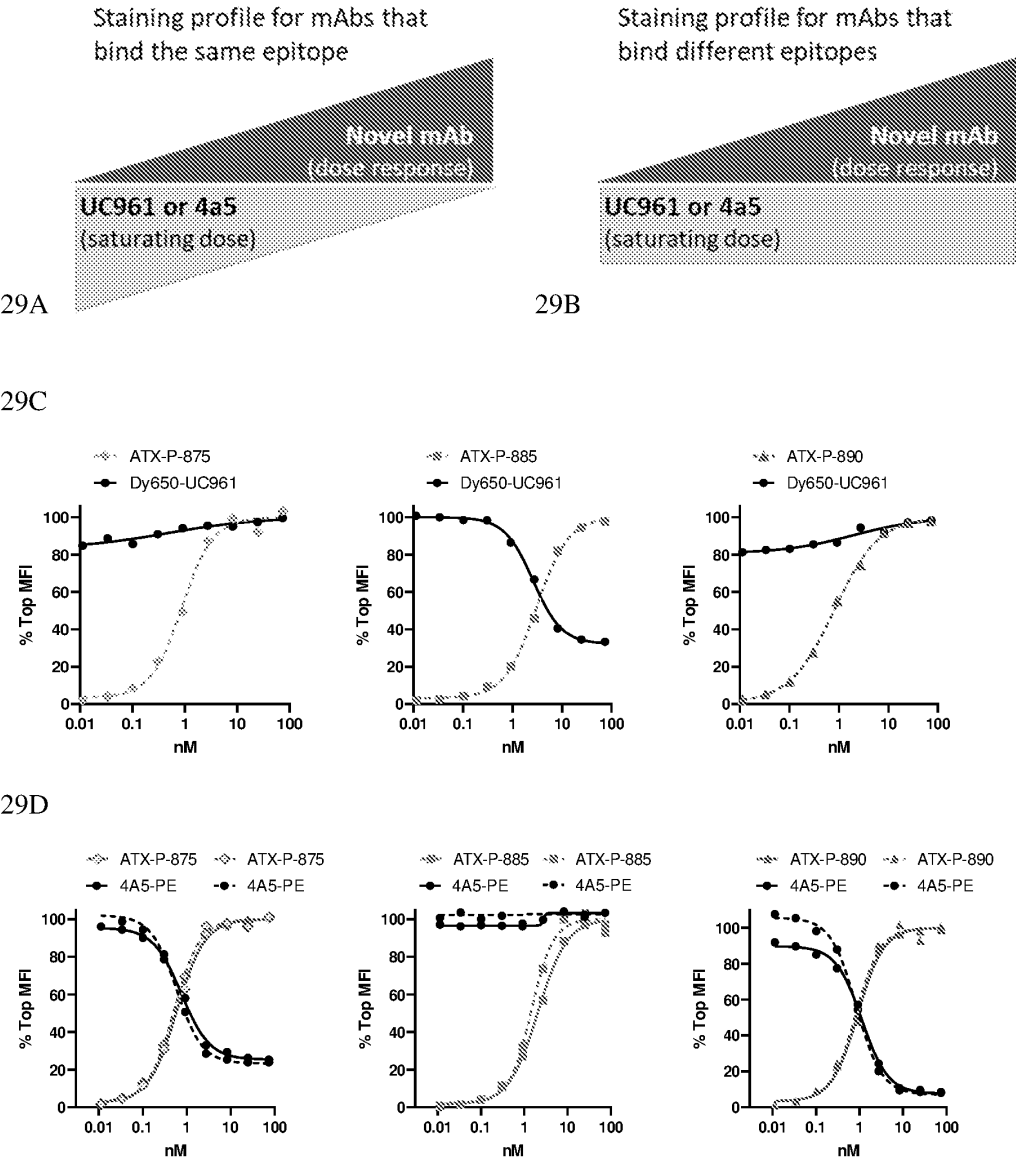


FIG. 29A-29D

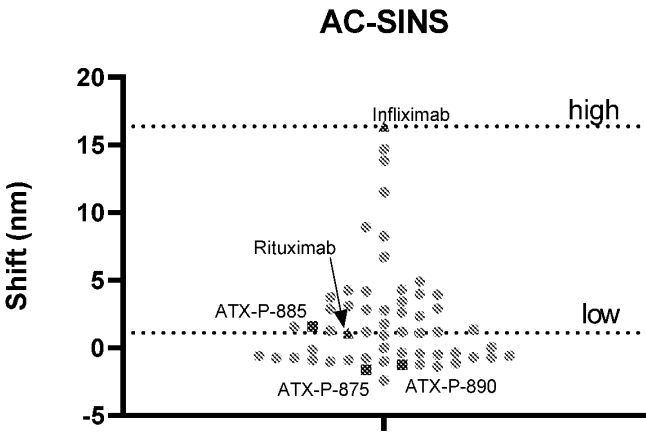


FIG. 30

				Analyte mAbs					
				(Injected over chip surface at 10 µg/ml after Hu/Cy/Rh ROR1-His)					
				Kinetics (KD)	4.69E-09	1.09E-08	6.45E-09	8.40E-09	2.81E-09
				Isotype	Human IgG1	Human IgG1	Human IgG1	Human IgG1	Mouse BALB/c IgG2b, κ
		Kinetics (KD)	Isotype	ID	ATX-P-453	ATX-P-885	ATX-P-875	ATX-P-890	4A5
Ligand mAbs (immobilized to Carterra chip Surface)		4.69E-09	Human IgG1	ATX-P-453					
		1.09E-08	Human IgG1	ATX-P-885					
		6.45E-09	Human IgG1	ATX-P-875					
		8.40E-09	Human IgG1	ATX-P-890					
		2.81E-09	Mouse BALB/c IgG2b, κ	4A5					

FIG. 31

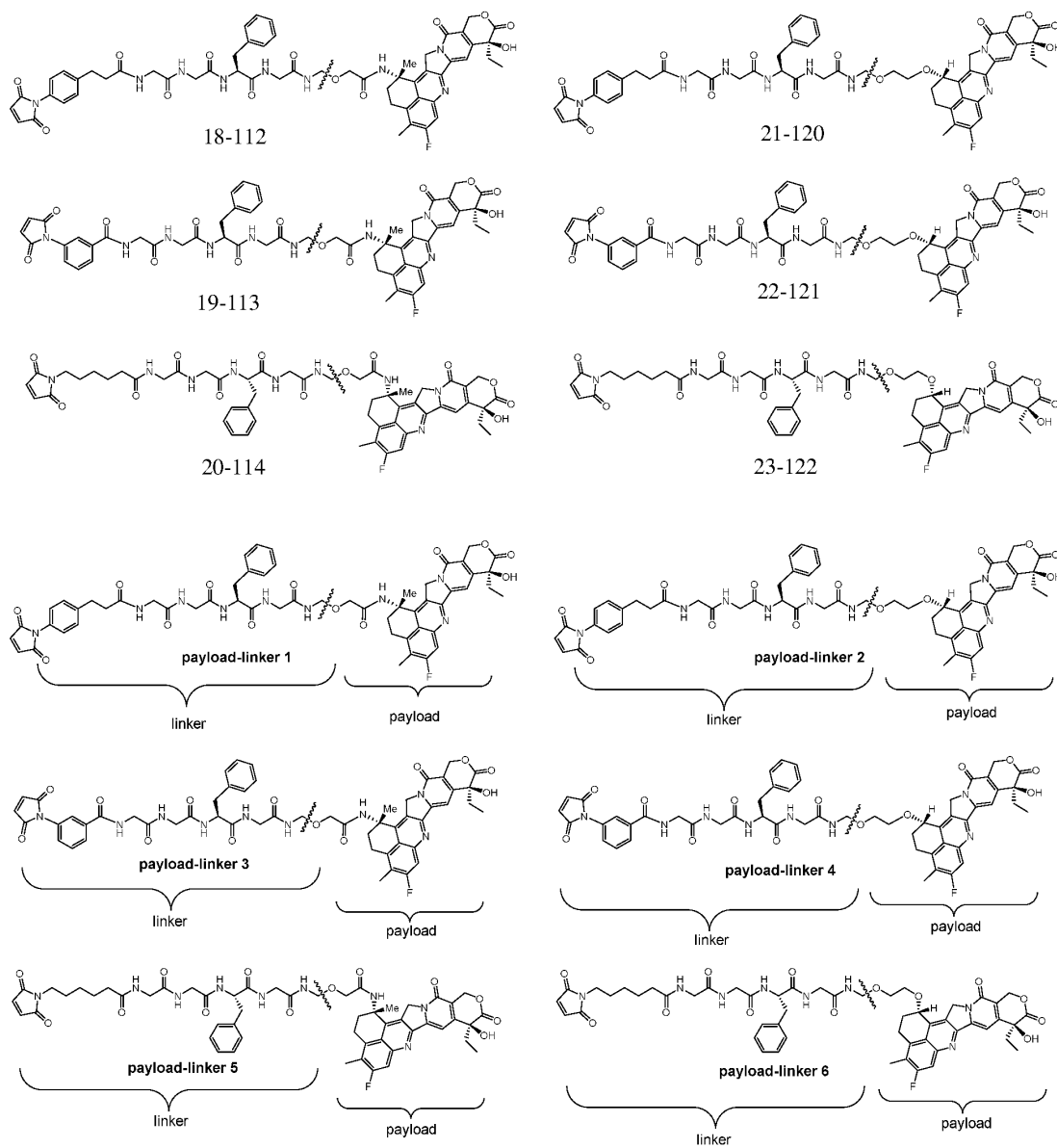


FIG. 32

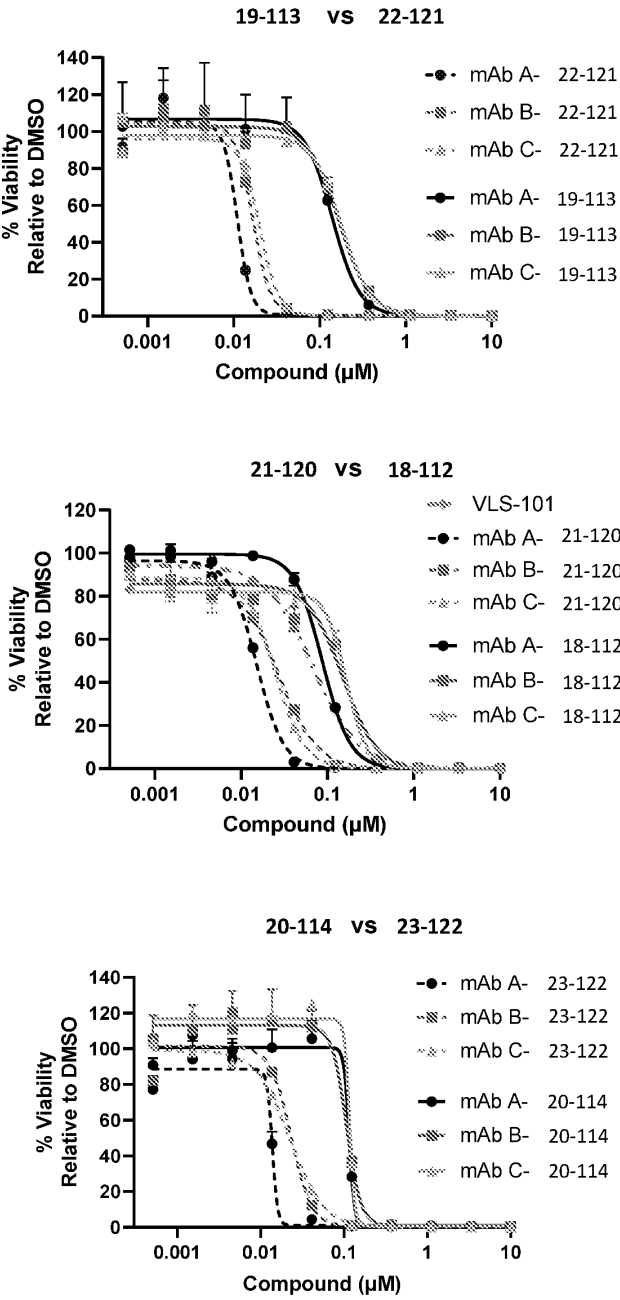


FIG. 33

Seq ID No.	Description	Sequence
1	ATX-P-875 VH CDR1 (Kabat)	GFTFSNAW
2	ATX-P-875 VH CDR2 (Kabat)	IKSKTDGGTT
3	ATX-P-875 VH CDR3 (Kabat)	TTGPDDL DY
4	ATX-P-875 VH nt	GAGGTGCAGCTGGTGGAGTCCGGGGGAGGCCTGGTC AAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACTTTCAGTAACGCCTGGATGAGCTGGGT CCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTTGG CCGTATTAAAAGCAAACTGATGGTGGGACAACAGA CTACGCTGCACCCGTGAAAGGCAGATTCACCATCTCA AGAGATGATTCAAAAAACACGCTCTATCTGCAAAATGA ACAGCCTGAAAACCGAGGACACAGCCGTGTATTACT GTACCACAGGCCCTGACGATCTTGACTACTGGGGCCA GGGAACCCCGGTCACCGTCTCTCTCA
5	ATX-P-875 VH AA	EVQLVESGGGLVKPGGSLRLSCAASGFTFSNAWMSWV RQAPGKGLEWVGRIKSKTDGGTTDYAAPVKGRFTISR DSKNTLYLQMNSLKTEDTAVYYCTTGPDDL DYWGQGT PVTVSS
6	ATX-P-875 HC IgG1-Fc nt	GAGGTGCAGCTGGTGGAGTCCGGGGGAGGCCTGGTC AAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCT CTGGATTCACTTTCAGTAACGCCTGGATGAGCTGGGT CCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTTGG CCGTATTAAAAGCAAACTGATGGTGGGACAACAGA CTACGCTGCACCCGTGAAAGGCAGATTCACCATCTCA AGAGATGATTCAAAAAACACGCTCTATCTGCAAAATGA ACAGCCTGAAAACCGAGGACACAGCCGTGTATTACT GTACCACAGGCCCTGACGATCTTGACTACTGGGGCCA GGGAACCCCGGTCACCGTCTCTCTCAGCTAGCACTAAA GGGCCTTCTGTATTTCCCTTGCCCCGTCCAGCAAAT CGACCTCGGGAGGGACAGCCGCCCTGGGTTGCCTTGT GAAAGATTATTTCCCTGAGCCAGTTACCGTAAGTTGG AACAGTGGGGCGCTGACAAGTGGTGTGCACACGTTTC CTGCCGTCCTGCAATCATCGGGCTTGTATAGCCTCAG CTCTGTGGTCACTGTCCCAAGTTCATCGCTGGGCACT CAGACGTATATTTGCAATGTGAACCACAAACCTTCAA ATACAAAAGTGGATAAACGCGTAGAACCGAAATCGT

		GTGATAAACTCACACATGCCCCGCATGCCCGGCACC TGAAGTGTGGTGGTCCCAGCGTGTTCCTGTTCCCCG CGAAGCCTAAAGATACTCTAATGATCAGCCGTACGCC AGAGGTGACATGTGTCTGGTTGACGTGTCCACGAA GATCCCGAAGTTAAGTTCAATTGGTATGTTGATGGTG TAGAGGTACACAATGCTAAGACTAAACCTCGCGAGG AGCAGTACAATTCGACCTATCGTGTCTGAGCGTTCT GACCGTCCTTACCAAGATTGGCTTAACGGCAAAGAA TATAAGTGCAAGGTAAGCAATAAAGCACTTCCGGCCC CAATCGAGAAAACCATTTCCAAGGCCAAAGGTCAAC CAAGAGAACCCAGGTGTATACTCTTCCGCCTTCTCG TGAGGAAATGACTAAAAATCAAGTATCCCTACGTGT CTGGTTAAAGGTTTTATCCTAGCGATATTGCTGTGA ATGGGAATCGAACGGTCAGCCGGAGAATAATTATAA AACAACGCCACCCGTCCTGGATAGCGACGGCTCATTT TTTCTGTATAGCAAAGTACTGTAGATAAATCAGGT GGCAGCAGGGCAATGTATTCAGTTGCTCCGTTATGCA TGAAGCGTTACATAATCACTACACGCAGAAATCTCTT AGTCTTTCACCCGGT
7	ATX-P-875 HC IgG1-Fc AA	EVQLVESGGGLVKPGGSLRLSCAASGFTFSNAWMSWV RQAPGKGLEWVGRIKSKTDGGTTDYAAPVKGRFTISR DSKNTLYLQMNSLKTEDTAVYYCTTGPDDLWDYWGQGT PVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYF PEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTP SSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVS HEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVS VLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW ESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMEALHNHYTQKSLSLSPG
8	ATX-P-875 VL CDR1 (Kabat)	QSISSY
	ATX-P-875 VL CDR2 (Kabat)	AAS
10	ATX-P-875 VL CDR3 (Kabat)	QQYDNLPIIT
11	ATX-P-875 VL nt	GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTG CATCTGTAGGAGACAGAGTCACCATCACTTGCCGGGC AAGTCAGAGCATTAGCAGCTATTTAAATTGGTATCAG

		CAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTAT GCTGCATCCAGTTTGCAAAGTGGGGTCCCATCAAGGT TCAGCGGCAGTGGATCTGGGACAGATTTCACCTCTCAC CATCAGCAGCCTGCAACCTGAAGATTTTGCAACTTAC TACTGTCAACAGTATGATAATCTCCCGATCACCTTCG GCCAAGGGACACGACTGGAGATTAAA
12	ATX-P-875 VL AA	DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQK PGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISLQP EDFATYYCQQYDNLPIITFGQGRLEIK
13	ATX-P-875 Kappa LC nt	GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTG CATCTGTAGGAGACAGAGTCACCATCACTTGCCGGGC AAGTCAGAGCATTAGCAGCTATTTAAATTGGTATCAG CAGAAACCAGGGAAAGCCCCCTAAGCTCCTGATCTAT GCTGCATCCAGTTTGCAAAGTGGGGTCCCATCAAGGT TCAGCGGCAGTGGATCTGGGACAGATTTCACCTCTCAC CATCAGCAGCCTGCAACCTGAAGATTTTGCAACTTAC TACTGTCAACAGTATGATAATCTCCCGATCACCTTCG GCCAAGGGACACGACTGGAGATTAAACGTACGGTAG CTGCCCCTTCAGTTTTTATCTTTCCGCCGTCTGACGAG CAGTTAAAATCCGGGACCGCTTCTGTAGTTTGCTGC TGAATAATTTTATCCGCGTGAGGCTAAAGTACAATG GAAAGTCGACAATGCTTTGCAGTCGGGAAATTCACAG GAAAGTGTTACGGAGCAGGATTCTAAAGATTCCACAT ATTCACTCAGCTCCACCCTTACACTGAGCAAAGCCGA CTATGAAAAACATAAAGTTTACGCATGTGAGGTGACG CACCAAGGATTATCCAGTCCGGTCACAAAATCGTTTA ACCGCGGTGAGTGT
14	ATX-P-875 Kappa LC AA	DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQK PGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISLQP EDFATYYCQQYDNLPIITFGQGRLEIKRTVAAPSVFIFPP SDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSG NSQESVTEQDSKSTYLSSTLTLSKADYEKHKVYACE VTHQGLSPVTKSFNRGEC
15	ATX-P-885 VH CDR1 (Kabat)	GGSFSGYY
16	ATX-P-885 VH CDR2 (Kabat)	INHSGST
17	ATX-P-885 VH CDR3 (Kabat)	AREGVYEDY

18	ATX-P-885 VH nt	CAGGTGCAGCTACAGCAGTGGGGCGCAGGACTGTTG AAGCCTTCGGAGACCCTGTCCCTCACCTGCGCTGTCT ATGGTGGGTCCTTCAGTGGTTACTACTGGAGCTGGAT CCGCCAGCCCCCAGGGAAGGGGCTGGAGTGGATTGG GGAAATCAATCATAGTGGAAGCACCAACTACAACCC GTCCCTCAAGAGTCGAGTCACCATATCAGTAGACACG TCCAAGAACCAGTTCTCCCTGAAGCTGAGCTCTGTGA CCGCCGCGGACACGGCTGTATATTACTGTGCGAGAGA GGGTGTCTACGAGGACTACTGGGGCCAGGGAACCCT GGTCACCGTCTCCTCA
19	ATX-P-885 VH AA	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKGLEWIGEINHSGSTNYPNPSLKSRTVISVDTSKN QFSLKLSSVTAADTAVYYCAREGVYEDYWGQGLTVTV SS
20	ATX-P-885 HC IgG1-Fc nt	CAGGTGCAGCTACAGCAGTGGGGCGCAGGACTGTTG AAGCCTTCGGAGACCCTGTCCCTCACCTGCGCTGTCT ATGGTGGGTCCTTCAGTGGTTACTACTGGAGCTGGAT CCGCCAGCCCCCAGGGAAGGGGCTGGAGTGGATTGG GGAAATCAATCATAGTGGAAGCACCAACTACAACCC GTCCCTCAAGAGTCGAGTCACCATATCAGTAGACACG TCCAAGAACCAGTTCTCCCTGAAGCTGAGCTCTGTGA CCGCCGCGGACACGGCTGTATATTACTGTGCGAGAGA GGGTGTCTACGAGGACTACTGGGGCCAGGGAACCCT GGTCACCGTCTCCTCAGCTAGCACTAAAGGGCCTTCT GTATTTCCCTTGGCCCCGTCCAGCAAATCGACCTCGG GAGGGACAGCCGCCCTGGGTTGCCTTGTGAAAGATTA TTTCCCTGAGCCAGTTACCGTAAGTTGGAACAGTGGG GCGCTGACAAGTGGTGTGCACACGTTTCCTGCCGTCC TGCAATCATCGGGCTTGTATAGCCTCAGCTCTGTGGT CACTGTCCCAAGTTCATCGCTGGGCACTCAGACGTAT ATTTGCAATGTGAACCACAAACCTTCAAATACAAAAG TGGATAAACGCGTAGAACCGAAATCGTGTGATAAAA CTCACACATGCCCCGCCATGCCCGGCACCTGAACTGCT TGGTGGTCCCAGCGTGTTCCTGTTCCCGCCGAAGCCT AAAGATACTCTAATGATCAGCCGTACGCCAGAGGTG ACATGTGTCGTGGTTGACGTGTCCACGAAGATCCCCG AAGTTAAGTTCAATTGGTATGTTGATGGTGTAGAGGT

		ACACAATGCTAAGACTAAACCTCGCGAGGAGCAGTA CAATTTCGACCTATCGTGTCGTGAGCGTTCTGACCGTC CTTCACCAAGATTGGCTTAACGGCAAAGAATATAAGT GCAAGGTAAGCAATAAAGCACTTCCGGCCCCAATCG AGAAAACCATTTCCAAGGCCAAAGGTCAACCAAGAG AACCCAGGTGTATACTCTTCCGCCTTCTCGTGAGGA AATGACTAAAAATCAAGTATCCCTTACGTGTCTGGTT AAAGGTTTTATCCTAGCGATATTGCTGTTGAATGGG AATCGAACGGTCAGCCGGAATAATTATAAAACAA CGCCACCCGTCCTGGATAGCGACGGCTCATTTTTTCT GTATAGCAAACCTGACTGTAGATAAATCACGGTGGCA GCAGGGCAATGTATTCAGTTGCTCCGTTATGCATGAA GCGTTACATAATCACTACACGCAGAAATCTCTTAGTC TTTACCCGGT
21	ATX-P-885 HC IgG1-Fc AA	QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWI RQPPGKGLEWIGEINHSGSTNYNPSLKSRTVISVDTSKN QFSLKLSSVTAADTAVYYCAREGVYEDYWGQGLVTV SSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSL GTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPA PELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHED PEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLT VLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES NGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGN VFSCSVMEALHNHYTQKSLSLSPG
22	ATX-P-885 VL CDR1 (Kabat)	QSVSNY
	ATX-P-885 VL CDR2 (Kabat)	DAY
24	ATX-P-885 VL CDR3 (Kabat)	QQRSNWPLT
25	ATX-P-885 VL nt	GAAATTGTGTTGACACAGTCTCCAGCCACCCTGTCTT TGTCTCCAGGGGAAAGAGCCACCCTCTCCTGCAGGGC CAGTCAGAGTGTTAGCAACTACTTAGCCTGGTACCAA CAGAAACCTGGCCAGGCTCCCAGGCTCCTCATCTATG ATGCCTACAACAGGGCCACTGGCATCCCAGCCAGGTT CAGTGGCAGTGGGTCTGGGACAGACTTCACTCTCACC ATCAGCAGCCTAGAGCCTGAAGATTTTGCAGTTTATT

		ACTGTCAGCAGCGTAGCAACTGGCCTCTCACCTTCGG CCAAGGGACACGACTGGAGATTAAA
26	ATX-P-885 VL AA	EIVLTQSPATLSLSPGERATLSCRASQSVSNYLAWYQQK PGQAPRLLIYDAYNRATGIPARFSGSGSGTDFTLTISSE PEDFAVYYCQQRSNWPLTFGQGTRLEIK
27	ATX-P-885 Kappa LC nt	GAAATTGTGTTGACACAGTCTCCAGCCACCCTGTCTT TGTCTCCAGGGGAAAGAGCCACCCTCTCCTGCAGGGC CAGTCAGAGTGTTAGCAACTACTTAGCCTGGTACCAA CAGAAACCTGGCCAGGCTCCCAGGCTCCTCATCTATG ATGCCTACAACAGGGCCACTGGCATCCCAGCCAGGTT CAGTGGCAGTGGGTCTGGGACAGACTTCACTCTCACC ATCAGCAGCCTAGAGCCTGAAGATTTTGCAGTTTATT ACTGTCAGCAGCGTAGCAACTGGCCTCTCACCTTCGG CCAAGGGACACGACTGGAGATTAAACGTACGGTAGC TGCCCCCTTCAGTTTTTATCTTTCCGCCGTCTGACGAGC AGTTAAAATCCGGGACCGCTTCTGTAGTTTGCCTGCT GAATAATTTTTATCCGCGTGAGGCTAAAGTACAATGG AAAGTCGACAATGCTTTGCAGTCGGGAAATTCACAGG AAAGTGTTACGGAGCAGGATTCTAAAGATTCCACATA TTCAGTCAGCTCCACCCTTACACTGAGCAAAGCCGAC TATGAAAAACATAAAGTTTACGCATGTGAGGTGACGC ACCAAGGATTATCCAGTCCGGTCACAAAATCGTTTAA CCGCGGTGAGTGT
28	ATX-P-885 Kappa LC AA	EIVLTQSPATLSLSPGERATLSCRASQSVSNYLAWYQQK PGQAPRLLIYDAYNRATGIPARFSGSGSGTDFTLTISSE PEDFAVYYCQQRSNWPLTFGQGTRLEIKRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQ SGNSQESVTEQDSKSTYLSSTLTLSKADYEKHKVYA CEVTHQGLSSPVTKSFNRGEC
29	ATX-P-890 VH CDR1 (Kabat)	GYTFTGYY
30	ATX-P-890 VH CDR2 (Kabat)	INPNSGGT
31	ATX-P-890 VH CDR3 (Kabat)	VRDQVQLERFDS
32	ATX-P-890 VH nt	CAGGTGCAGCTGGTGCAGTCTGGGGCTGAGGTGAAG AAGCCTGGGGCCTCAGTGAAGGTCTCCTGCAAGGCTT CTGGATACACCTTACCGGCTACTATATGCACTGGGT GCGACAGGCCCTGGACAAGGGCTTGAGTGGATGGG ATGGATCAACCTAACAGTGGTGGCACAACTATGCA

		CAGAAAGTTTCAGGGCAGGGTCACCATGACCAGGGAC ACGTCCATCAGCACAGCCTACATGGAGCTGAGCAGG CTGAGATCTGACGACACGGCCGTGTATTACTGTGTGA GAGATCAGGTACAACCTGGAACGGTTCGACTCCTGGG GCCAGGGAACCCCTGGTCACCGTCTCCTCA
33	ATX-P-890 VH AA	QVQLVQSGAEVKKPGASVKVSKASGYTFTGYYMHW VRQAPGQGLEWMGWINPNSGGTNYAQKFQGRVTMTR DTSISTAYMELSRLSDDTAVYYCVRDQVQLERFDSWG QGTLVTVSS
34	ATX-P-890 HC IgG1-Fc nt	CAGGTGCAGCTGGTGCAGTCTGGGGCTGAGGTGAAG AAGCCTGGGGCCTCAGTGAAGGTCTCCTGCAAGGCTT CTGGATACACCTTCACCGGCTACTATATGCACTGGGT GCGACAGGCCCTTGACAAGGGCTTGAGTGGATGGG ATGGATCAACCCTAACAGTGGTGGCACAACTATGCA CAGAAGTTTCAGGGCAGGGTCACCATGACCAGGGAC ACGTCCATCAGCACAGCCTACATGGAGCTGAGCAGG CTGAGATCTGACGACACGGCCGTGTATTACTGTGTGA GAGATCAGGTACAACCTGGAACGGTTCGACTCCTGGG GCCAGGGAACCCCTGGTCACCGTCTCCTCAGCTAGCAC TAAAGGGCCTTCTGTATTTCCCTTGGCCCCGTCCAGC AAATCGACCTCGGGAGGGACAGCCGCCCTGGGTTC CTTGTGAAAGATTATTTCCCTGAGCCAGTTACCGTAA GTTGGAACAGTGGGGCGCTGACAAGTGGTGTGCACA CGTTTCCTGCCGTCCTGCAATCATCGGGCTTGTATAGC CTCAGCTCTGTGGTCACTGTCCCAAGTTCATCGCTGG GCACTCAGACGTATATTTGCAATGTGAACCACAAACC TTCAAATACAAAAGTGGATAAACCGCTAGAACCGAA ATCGTGTGATAAACTCACACATGCCCCGCCATGCCCCG GCACCTGAACTGCTTGGTGGTCCCAGCGTGTTCCTGT TCCCGCCGAAGCCTAAAGATACTCTAATGATCAGCCG TACGCCAGAGGTGACATGTGTTCGTGGTTGACGTGTCC CACGAAGATCCCGAAGTTAAGTTCAATTGGTATGTTG ATGGTGTAGAGGTACACAATGCTAAGACTAAACCTCG CGAGGAGCAGTACAATTCGACCTATCGTGTCTGTGAGC GTTCTGACCGTCCTTCACCAAGATTGGCTTAACGGCA AAGAATATAAGTGCAAGGTAAGCAATAAAGCACTTC CGGCCCCAATCGAGAAAACCATTTCCAAGGCCAAAG

		GTCAACCAAGAGAACCCAGGTGTATACTCTTCCGCC TTCTCGTGAGGAAATGACTAAAAATCAAGTATCCCTT ACGTGTCTGGTTAAAGGTTTTATCCTAGCGATATTGC TGTTGAATGGGAATCGAACGGTCAGCCGGAGAATAA TTATAAAACAACGCCACCCGTCCTGGATAGCGACGGC TCATTTTTCTGTATAGCAAAGTACTGTAGATAAATC ACGGTGGCAGCAGGGCAATGTATTCAGTTGCTCCGTT ATGCATGAAGCGTTACATAATCACTACACGCAGAAAT CTCTTAGTCTTTCACCCGGT
35	ATX-P-890 HC IgG1-Fc AA	QVQLVQSGAEVKKPGASVKVSKASGYTFTGYYMHW VRQAPGQGLEWMGWINPNSGGTNYAQKFQGRVTMTR DTSISTAYMELSRLRSDDTAVYYCVRDQVQLERFDSWG QGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGLVK DYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV TVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHT CPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRV VSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV EWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRW QQGNVFSCSVMEALHNHYTQKSLSLSPG
36	ATX-P-890 VL CDR1 (Kabat)	QDISNY
	ATX-P-890 VL CDR2 (Kabat)	DAS
38	ATX-P-890 VL CDR3 (Kabat)	QQYDNLPT
39	ATX-P-890 VL nt	GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTG CATCTGTAGGAGACAGAGTCACCATCACTTGCCAGGC GAGTCAGGACATTAGCAACTATTTAAATTGGTATCAG CAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTAC GATGCATCCAATTTGGAAACAGGGGTCCCATCAAGGT TCAGTGGAAGTGGATCTGGGACAGATTTTACTTTTAC CATCAGCAGCCTGCAGCCTGAAGATATTGCAACATAT TACTGTCAACAGTATGATAATCTCCCTCCCACTTTCCG CCCTGGGACCAAGGTGGAAATCAAA
40	ATX-P-890 VL AA	DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQK PGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISLQ PEDIATYYCQQYDNLPTFGPGTKVEIK

41	ATX-P-890 Kappa LC nt	GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTG CATCTGTAGGAGACAGAGTCACCATCACTTGCCAGGC GAGTCAGGACATTAGCAACTATTTAAATTGGTATCAG CAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCTAC GATGCATCCAATTTGGAAACAGGGGTCCCATCAAGGT TCAGTGGAAGTGGATCTGGGACAGATTTTACTTTTAC CATCAGCAGCCTGCAGCCTGAAGATATTGCAACATAT TACTGTCAACAGTATGATAATCTCCCTCCCCTTTTCGG CCCTGGGACCAAGGTGGAAATCAAACGTACGGTAGC TGCCCTTCAGTTTTTATCTTTCCGCCGTCTGACGAGC AGTTAAATCCGGGACCGCTTCTGTAGTTTGCCTGCT GAATAATTTTATCCGCGTGAGGCTAAAGTACAATGG AAAGTCGACAATGCTTTGCAGTCGGGAAATTCACAGG AAAGTGTTACGGAGCAGGATTCTAAAGATTCCACATA TTCCTCAGCTCCACCCCTTACACTGAGCAAAGCCGAC TATGAAAAACATAAAGTTTACGCATGTGAGGTGACGC ACCAAGGATTATCCAGTCCGGTCACAAAATCGTTTAA CCGCGGTGAGTGT
42	ATX-P-890 Kappa LC AA	DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQK PGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISLQ PEDIATYYCQQYDNLPTFGPGTKVEIKRTVAAPSVFIFP PSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQS GNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYAC EVTHQGLSSPVTKSFNRGEC

FIG. 34