```
                                        ---CDRH1--
7G10   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSNVMH WVKQKPGQGLEWIG
6H12   EVHLQQSGPELVKPGASVKMSCKAS GYTFNRYLIH WVKQKPGQGLEWIG
13F11  EVQLQQSGPELVKPGASVKMSCKAS GHTLTRYLMH WVQQKPGQGLEWIG
13B5   EVQLQQSGPELVKPGASVKMSCKAS GYTFTRYLMH WVKQKPGQGLEWIG
7E2    EVQLQQSGPELVKPGASVKMSCKAS GYTFTTYLMH WVKQKPGQGLEWIG
13G1   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYLMH WVKQKPGQGLEWIG
11C10  EVQLQQSGPELVKPGASVKMSCKAS GYTFTRYVMH WVKQKPGQGLEWIG
1E10   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYVMH WVKQKPGQGLEWIG
30F11  EVQLQQSGPELLKPGASVKMSCKAS AYTFTRYLIH WVKQKPRQGLEWIG
34E4   EVQLQQSGPELVKPGASVKMSCKAS GYTFTAYNMH WVKQSHGKSLEWIG
5B12   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYVMH WVKQKPGQGLEWIG
6H4    EVQLQQSGPELVKPGASVKMSCKAS GYTFTRYLMH WVKQKPGQGLEWIG
9C9    EVQLQQSGPELVKPGASVRMSCKAS GYTFTSYLIH WVKQKPGQGLEWIG
11B10  EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYVMH WVKQKPGQGLEWIG
30E1   EVQLQQSGPELVKPGASVKMSCKAS GYTFTAYNMH WVKQSHGKSLEWIG
33D2   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYLMH WVKQKPGQGLEWIG
20A9   EVQLKQSGLEVVKPGASVKMSCKAS GYTFTAHLMH WVKQRPGQGLEWIG
22E9   EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYVMH WVKQKPGQGLEWIG
29D5   EVQLQQSGPELVKPGASVKMSCKAS GYSFTSYVMH WVKQKPGQGLEWIG
21A10  EVQLQQSGPELVKPGASVKMSCKAS GYTFTSYVMH WVKQKPGQGLDWIG
33B12  QVQLQQSGAELARPGASVKLSCKAS GYTFTSYSLK WVKQRTGQGLEWIG
con                             GYTFTSYLMH

10H11  EVMLVESGGGLVKPGGSLKLSCAAS GFTFSSYSMS WVRQTPEKRLEWVA
19E9   EVMLVESGGGLVKPGGSLKLSCAAS GFTFSTYDMS WVRQTPEKRLEWVA
10G8   EVMLVESGGGLVKPGGSLKLSCAAS GFTFSSYSMS WVRQTPEKRLEWVA

3D7    QVQLQQSGPELVKPGASVKISCKAS GYSFTSYYIH WVKQRPGQGLEWIG

39G2   QVQLQQPGAELVRPGASVKLSCKAS GYSFTSSWMN WVKQRPGQGLEWIG
35F12 QVQLQQPGAELMRPGASVRLSCKAS GYSFTTSWMN WVKQRPGQGLEWIG
49A10  EVQLQQSGPELVKPGASVKISCKAS GYTFTDYYMN WVKQSHGKSLEWFG
34F9   QVQLQQSGAELAKPGASVKLSCKAS GYTFPTFWMH WVKQRPGQGLEWIG
7D7    QVQLQQSGAELAKPGASVKLSCKAS GYTFTNYWMD WVKQRPGQGLEWIG
```

Figure 1A

```
      ------CDRH2------
7G10  YINPYNDGTKYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAR
6H12  YINPNNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAA
13F11 YINPYNDGTKYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAR
13B5  YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAR
7E2   YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCTK
13G1  YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMDLSSLTSEDSAVYYCAI
11C10 YINPYNDVPNYNENFKG KATLTSDKSSSTASMELSSLTSEDSAVYYCAV
1E10  YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAS
30F11 YINPYNDGTKYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAR
34E4  YINPNNGIPNYNQKFKG KATLTVNKSSSTAYMELRSLTSEDSAVFYCAL
5B12  YINPYNDGTNYNEKFKH KATLTSDKSSSTAYMELSSLTSEDSAVYYCTS
6H4   YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAR
9C9   YINPYNDGTNYNENFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAS
11B10 YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELGSLTSEDSAVYYCAS
30E1  YINPNNGGTNYNQKFKG KATLTVNKSSSTAYMELRSLTSEDSAVYYCTL
33D2  YINPYNDGPKYNEQFKG KATLTSDKSSNTAYMELSSLTSEDSAVYYCAR
20A9  YINPYNDGTNYNEKFKG KATLTSDKSSSTAFMELSSLTSEDSAVYYCAS
22E9  YINPYNAGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCAS
29D5  YINPYNDGTNYNEKFRG KATLTSDKSSNTAYLDLSSLTSEDSAVYYCAS
con   YINPYNDGTNYNEKFKG

21A10 YINPYNDGTNYNEKFKG KATLTSDKSSSTAYMELSSLTSEDSAVYYCTS
33B12 EIHPRSGNTHYNEKFKG KATLTADKSSSTAYMDLRSLTSEDSAVYFCAT

10H11 TISRGGGNTYYPDSVKG RFTISRDNANNNLFLRLSSLRSEDTALYYCAR
19E9  TISRGGGNTYYPDSVKS RFTISRDNAKNNLYLQMSSLRSVDTALYYCSR
10G8  TISRGGGNTYYPDSVKG RFTISRDNAKNNLYLRMSSLRSEDTALYYCAR

3D7   WIFPGSGNTKYNEKFKG KATLTADTSSTTAYMQLSSLTSEASAVYFCAR

39G2  MIHPSDSETRTNQKFKD KATLTVDKSSSTAYMQLSSPTSEDSAVYYCAR
35F12 MIHPSDSETRLNQNFKD KATLTVDRSSSTAYMQLNSPTSEDSAVYYCAR
49A10 DINPNNGDTSYNQKFKG KATLTVDKSSSTAYMELRSLTSEDSADYYCAR
34F9  YINPSSGYTEYNQKFKD KATLTADKSSSTAYMQLSSLTYEDSAVYYCAR
7D7   YINPSSGYVEYNQKFKY KATLTADKTSSTAYMQLSSLTYDDSAVYYCAR
```

Figure 1B

	-----CDRH3-----	
7G10	NWDVAY	WGQGTLVTVSA
6H12	NWDQAY	WGQGTLVTVSA
13F11	NWDVAY	WGQGTLVTVSA
13B5	NWDVGGY	WGQGTTLTVSS
7E2	NWDKGY	WGQGTTLTVSS
13G1	NWDLAY	WGQGTLVTVSA
11C10	-WDFTY	WGQGTLVTVSA
1E10	NWDVGY	WGQGTTLTVSS
30F11	NWDVAY	WGQGTLVTVSA
34E4	NWDLDY	WGQGTTLSVSS
5B12	NWDVGF	WGQGTTLTVSS
6H4	NWDVTC	WGQGTLVTVSA
9C9	NWDVGY	WGQGTTLTVSS
11B10	NWDVGY	WGQGTTLTVSS
30E1	NWDLDY	WGQGTTLTVSS
33D2	NWDVTC	WGQGTLVTVSA
20A9	NWDVGY	WGQGTTLTVSS
22E9	NWDVGY	WGQGTTLTVSS
29D5	NWDVGY	WGQGTTLTVSS
con	NWDVGY	
21A10	NWDRGY	WGQGTTLTVSS
33B12	NWDLGY	WGQGTTITVSS
10H11	WPFSYGMDY	WGQGTSVTVSS
19E9	WPFSYAMDY	WGQGTSVTVSS
10G8	WPFSYGMDY	WGQGTSVTVSS
3D7	EGLHYFGLYAMDY	WGHGTSVTVSS
39G2	GMITAPTVY	WGQGTLVTVSA
35F12	GMITAPSVY	WGQGTLVTVSA
49A10	PHYRNWYFDV	WGTGTTVIVSS
34F9	SPPYYYDSTYWSFDV	WGTGTAVTVSS
7D7	SPPYYYANTYWSFDV	WGTGTTVTVSS

Figure 1C

```
                                    ------CDRL1------
7G10   DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
6H12   DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
33B12  DIVLTQSPATLSVTPGDRVSLSC RASQSISD------YLH
13F11  DIVMTQSPATLSVTPGDRVSLSC RASQTISD------YLH
13B5   DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
13G1   DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
11C10  DIVMTQSPATLSVTPGDRVSLSC RASQRISD------YLY
7E2    DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
30F11  DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
34E4   DIVMTQSPATLSVTPGDRVSLSC RASQSIRD------YLY
6H4    DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
33D2   DIVMTQSPATLSVTPGDRVSLSC RASQSISD------YLH
con                             RASQSISD------YLH

1E10   DIVMSQSPSSLAVSVGEKITMTC KSSQTLLYSSNQKNFLA
20A9   DIVMSQSPSSVAVSVGEKVTMSC KSSQSLLYSSNQKNFLA
22E9   DIVMSQSPSSVAVSVGEKVTMSC KSSQSLLYSSNQKNFLA
29D5   DIVMSQSPSSQTVSVGERVTMSC KSSQSLLYSSNQKNFLA
5B12   DIVMSQSPSSLAVSVGEKVTMNC KSSQSLLYSTNQKNFLA
9C9    DIVMSQSPSSLPVSVGEKVTMSC KSSQSLLYSSSQKNYLA
11B10  DIVMSQSPSSVAVSVGEKVTMNC KSSQNLLYSSNQKNFLA
con                             KSSQSLLYSSNQKNFLA

3D7    DIQMTQTTSSLSASLGDRVTISC SASQGISN------YLN

21A10  DIQMTQSPASLSASVGETVTITC RASGNIHN------YLT

10G8   DIVLTQSPASFAVALGQRATISC RASKSVSTSDYS--YMH
19E9   DIVLTQSPTSLAVSLGQRATISC RASKSVSTSDYS--YMH
10H11  DIVLTQSPASLAVALGQRATISC RASKSVSTSDYS--YMH
39G2   DIVLTQSPASLAVSLGQRATISC RASKSVSTSAYS--YFH
35F12  DIVLTQSPASLAVSLGQRATISC RASKSVSTSAYS--YFH
49A10  DIVLTQSPASLVVSLGQRATISC RASKSVSTSGYS--FLN
34F9   DIGLTQSPASLAVSLGQRATISC RASKSVSAFGYN--YMH
7D7    DIGLTQSPASLAVSLGQRATISC RASKSVSTSGYS--FMH
con                             RASKSVSTSDYS--YMH
```

Figure 2A

```
                          -CDRL2-
7G10   WYRQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
6H12   WYQQKSHESPRLLIK YTSQSIS GIPSRFSGSGSGS
33B12  WFQQRSHESPRLLIK YASQSIS GIPSRFSGSGSGS
13F11  WYQQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
13B5   WYQQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
13G1   WYQQKSHESPRLLIK FASQSIS GIPSRFSGSGSGS
11C10  WYQQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
7E2    WYQQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
30F11  WYQQKSHESPRLLIK YASQSIS GIPTRFSGSGSGS
34E4   WYQQKSHESPRLLIK FASQSIS GIPSRFSGSGSGS
6H4    WYHQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
33D2   WYQQKSHESPRLLIK YASQSIS GIPSRFSGSGSGS
con                    YASQSIS

1E10   WYRQKPGQSPKLLIY WTSTRES GVPDRFTGSGSGT
20A9   WYQQKPGQSPKLLIF WTSTRKS GVPDRFTGSGSGT
22E9   WYQQKPGQSPKLLIY WASTRES GVPDRFTGSGSGT
29D5   WYQQKPGQSPKLLIH WASTRES GVPDRFTGSGSGT
5B12   WYQQKPGQSPKLLIY WASTRKS GVPDRFTGSGSGT
9C9    WSQQKPGQSPKLLIY WASTRKS GVPDRFTGSGSGT
11B10  WYQQKPGQSPKLLIY WASTRKS GVPDRFTGSGSGT
con                    WASTRKS

3D7    WFQQKPDGTVKLLIY YTSSLHS GVPSRFSGSGSGT

21A10  WYQQKQGKSPQLLVY NAKTLAD GVPSRFSGSGSGT

10G8   WYQQKPGQPPKLLIY LASNLDS GVPARFSGSGSGT
19E9   WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
10H11  WYQQKPGQPPKLLIY LASNLDS GVPARFSGSGSGT
39G2   WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
35F12  WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
49A10  WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
34F9   WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
7D7    WYQQKPGQPPKLLIY LASNLES GVPARFSGSGSGT
con                    LASNLES
```

Figure 2B

```
                                --CDRL3--
7G10   DFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
6H12   DFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
33B12  DFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
13F11  HFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
13B5   DFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
13G1   DFTLSINSVEPEDVGVYYC QNGHSFPYT FGGGTKLEIKR
11C10  DFTLSINSVEPEDVGVYYC QNGHSFPYT FGGGTKLEIKR
7E2    EFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
30F11  DFTLTINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
34E4   DFTLSINSVEPEDVGVYYC QNGHSFPYT FGGGTKLEIKR
6H4    DFTLTINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
33D2   DFTLSINSVEPEDVGVYYC QNGHSFPFT FGSGTKLEIKR
con                        QNGHSFPFT

1E10   DFTLTISSVKAEDLAVYYC QQYYSYPFT FGSGTKLEIKR
20A9   DFTLTISSVKAEDLAVYYC QQYYSYPFT FGSGTKLEIKR
22E9   DFILTISSVRAEDLAFYYC QQYYSYPFT FGSGTKLEIKR
29D5   DFTLTISSVKAEDLALYYC QQYYSYPFT FGSGTKLEIKR
5B12   DFTLTISSVKAEDLAVYYC QQYYSYPFT FGSGTKLEIKR
9C9    DFTLTISSVKAEDLAVYYC HQYYSYPFT FGSGTKLEIKR
11B10  DFTLTISSVRAEDLAFYYC QQYYSYPFT FGSGTKLEIKR
con                        QQYYSYPFT

3D7    DYSLTISNLEPEDIATYYC QQYSKLPYT FGGGTKLEIKR

21A10  QFSLKINSLQPEDFGSYYC QHFWSTPFT FGSGTKLEIKR

10G8   DFTLNIHPVEEEDAATYYC QHSRELPYT FGGGTKLEIKR
19E9   DFTLNIHPVEEEDAATYYC QHSRELPYT FGGGTKLEIRR
10H11  DFTLNIHPVEEEDAATYYC QHSREFPYT FGGGTKLEIKR
39G2   DFTLNIHPVEEEDAATYYC QHSRELPWT FGGGTKLEITP
35F12  DFTLNIHPVEEGDAATYYC QHSRELPWT FGGGTKLEITR
49A10  DFTLNIHPVEAEDATTYYC QHSRELPLT FGSGTKLEMKR
34F9   DFTLNIHAVEEEDAATYYC QHSRELPLT FGAGTKLELKR
7D7    DFILNIHPVEEEDAATYYC QHSRELPLA FGAGTKLELTP
con                        QHSRELPYT
```

Figure 2C