Supplementary Data 1:

Physiochemical properties of SARS-CoV-2 T-cell epitopes in comparison to common human coronaviruses

Nelde *et al.*

Information

- Physiochemical properties were calculated by the freely available software PepCalc (https://pepcalc.com/)

- y axis: Hopp-Woods hydrophilicity scale
  - top is hydrophylic
  - bottom is hydrophobic

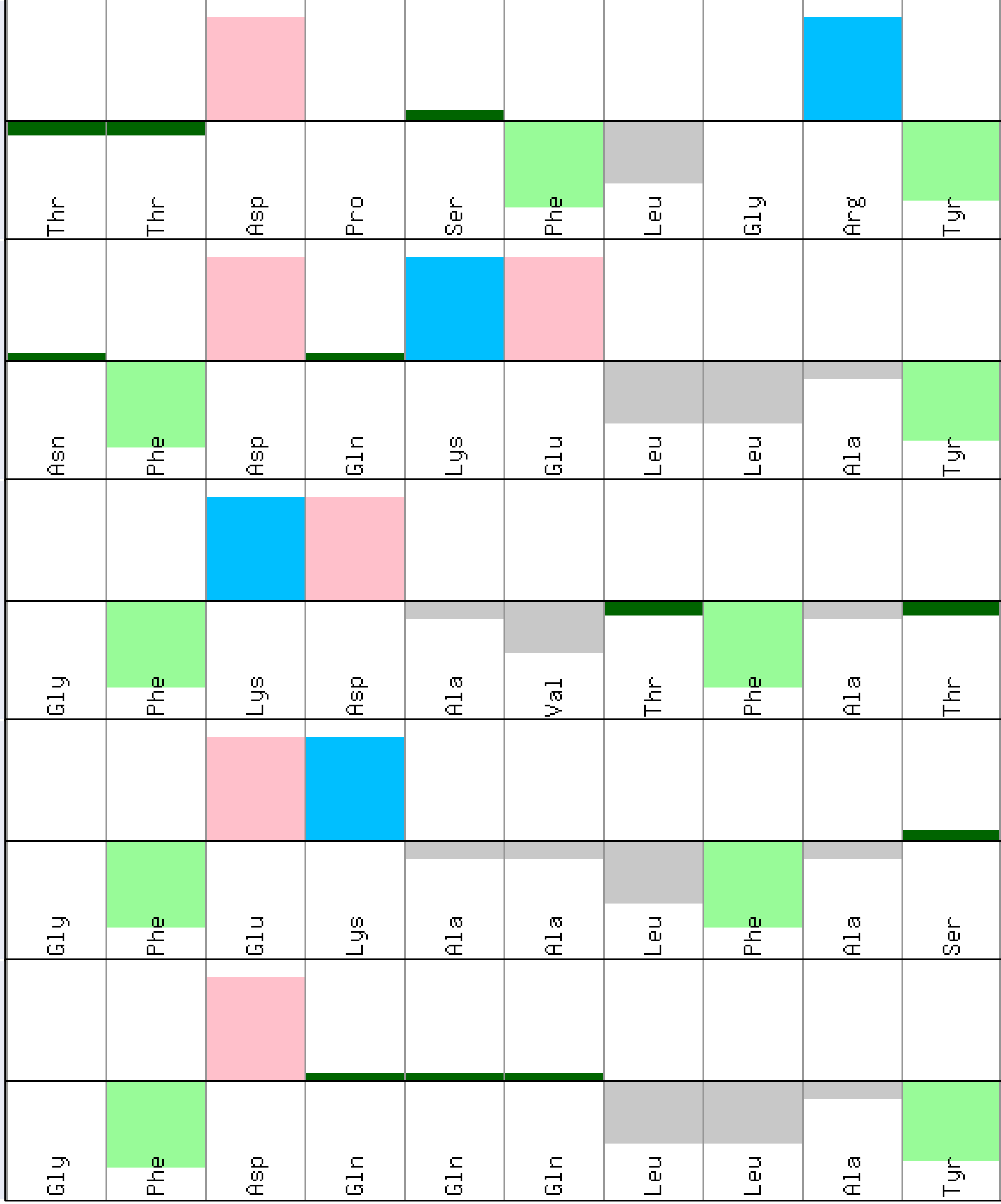
- color code:
  - acidic
  - aromatic
  - basic
  - aliphatic
  - polar
  - cysteine

Cross-reactive T-cell epitopes

HLA class I

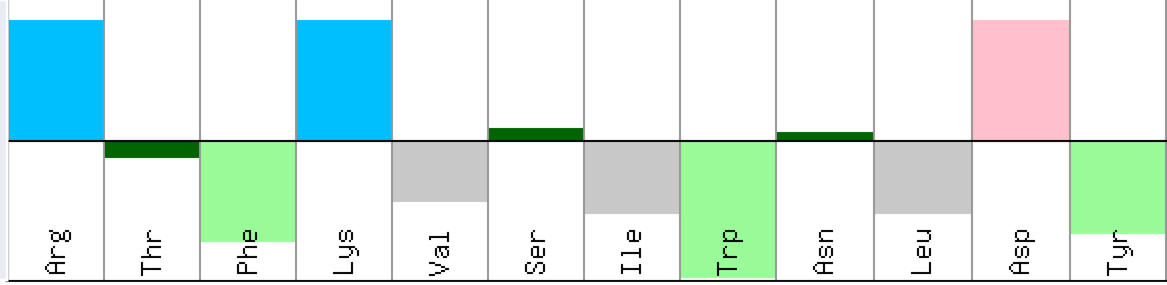
A01_P01

SARS-CoV-2	TTDPSFLGRY
HCoV-OC43	NFDQKELLAY
HCoV-229E	GFKDAVTFAT
HCoV-NL63	GFEKAALFAS
HCoV-HKU1	GFDQQQLLAY



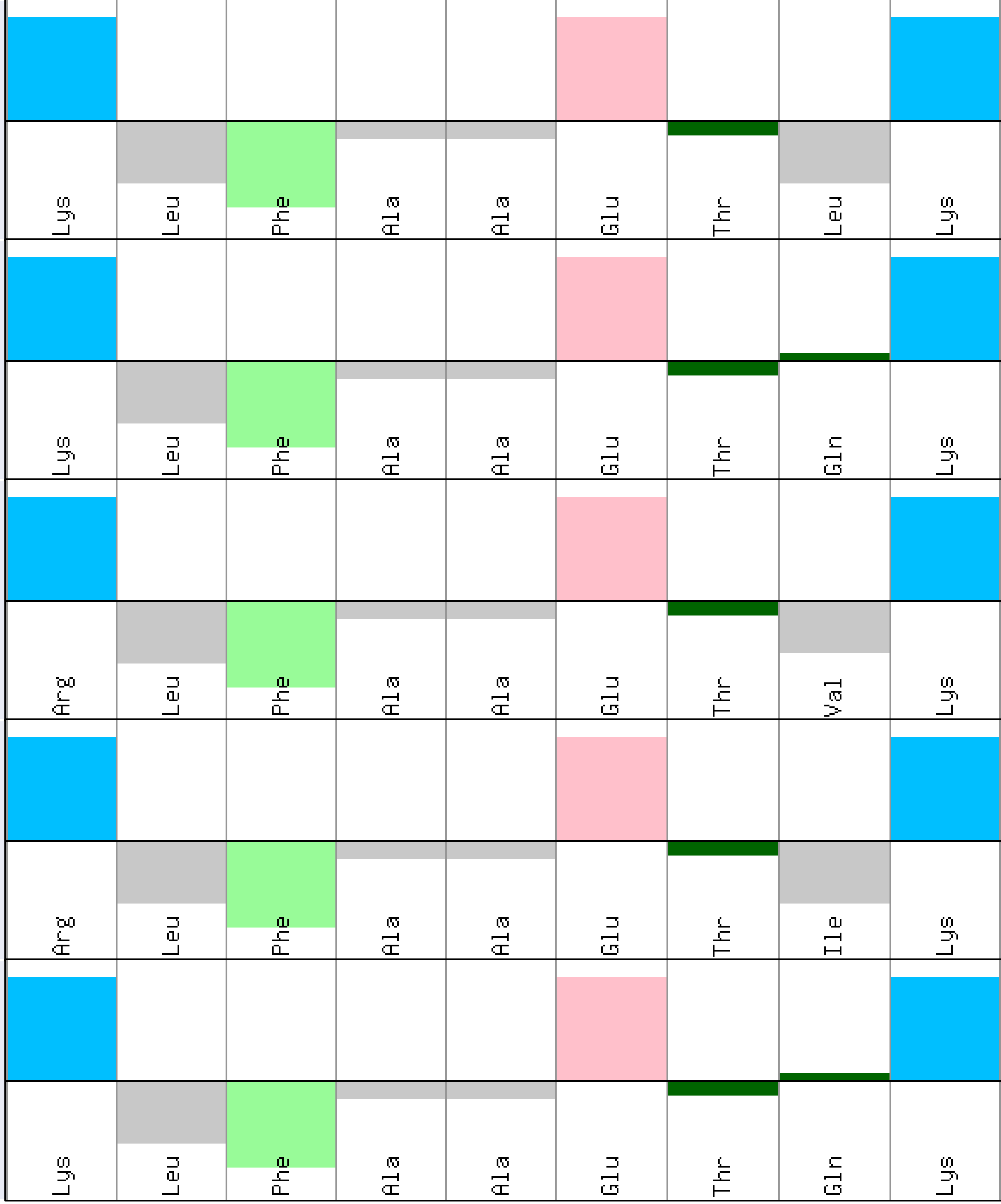
A01_P05

SARS-CoV-2	RTFKVSIWNLDY



No alignments to common coronaviruses possible.

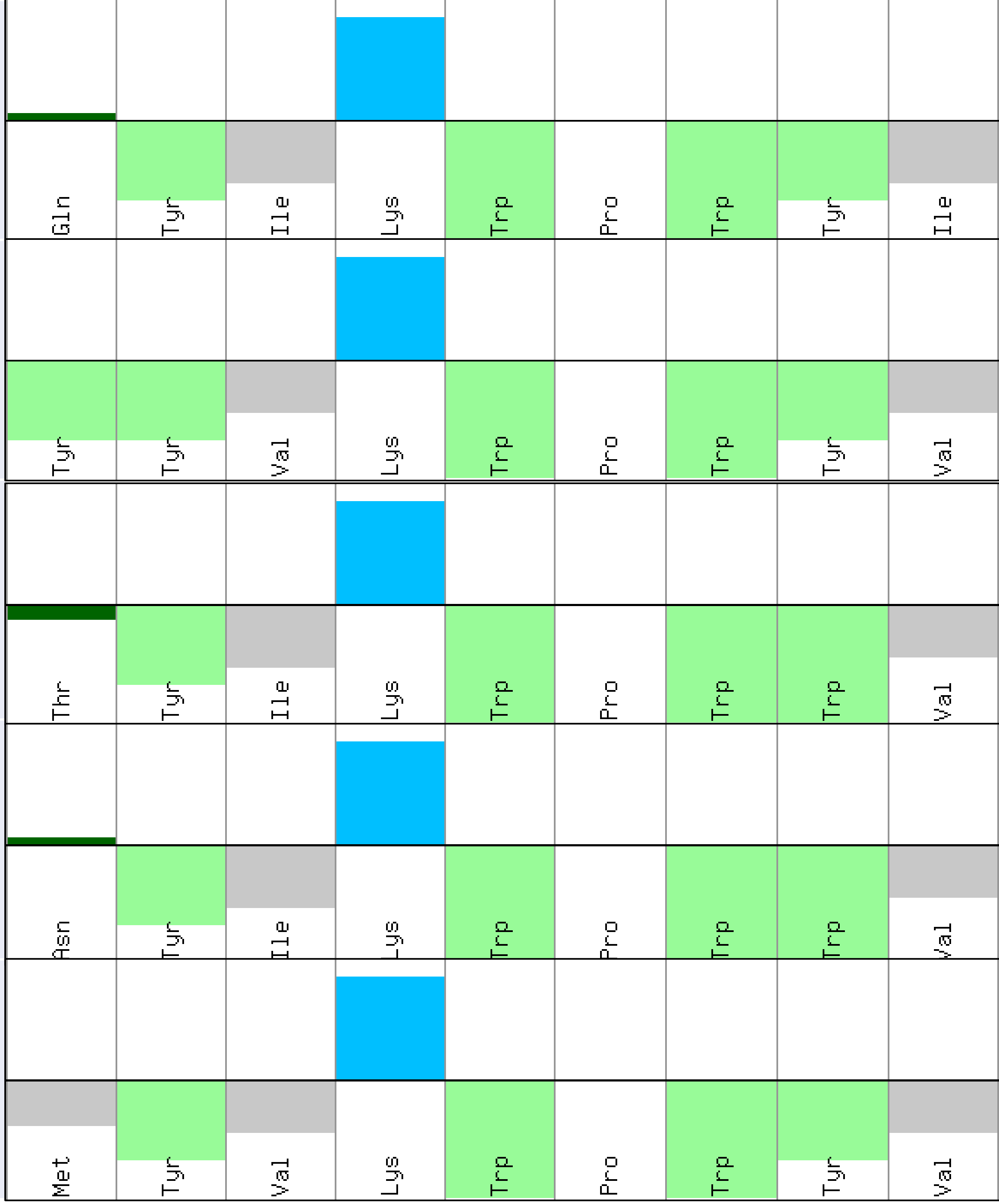
A03_P01



SARS-CoV-2	KLFAAETLK	Lys	Leu	Phe	Ala	Ala	Glu	Thr	Leu	Lys
HCoV-OC43	KLFAAETQK	Lys	Leu	Phe	Ala	Ala	Glu	Thr	Gln	Lys
HCoV-229E	RLFAAETVK	Arg	Leu	Phe	Ala	Ala	Glu	Thr	Val	Lys
HCoV-NL63	RLFAAETIK	Arg	Leu	Phe	Ala	Ala	Glu	Thr	Ile	Lys
HCoV-HKU1	KLFAAETQK	Lys	Leu	Phe	Ala	Ala	Glu	Thr	Gln	Lys

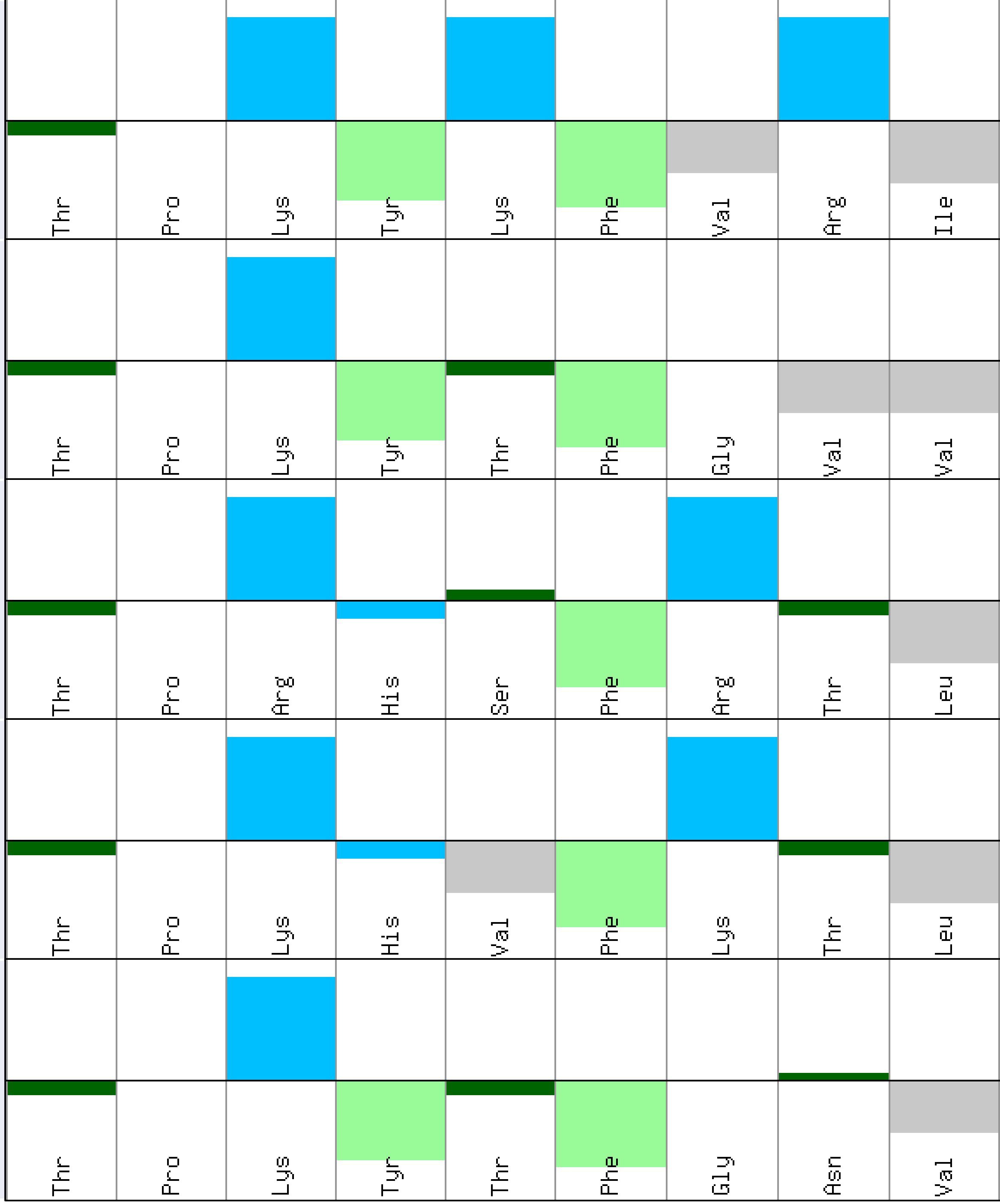
A24_P02

SARS-CoV-2	QYIKWPWYI
HCoV-OC43	YYVKWPWYV
HCoV-229E	TYIKWPWWV
HCoV-NL63	NYIKWPWWV
HCoV-HKU1	MYVKWPWYV

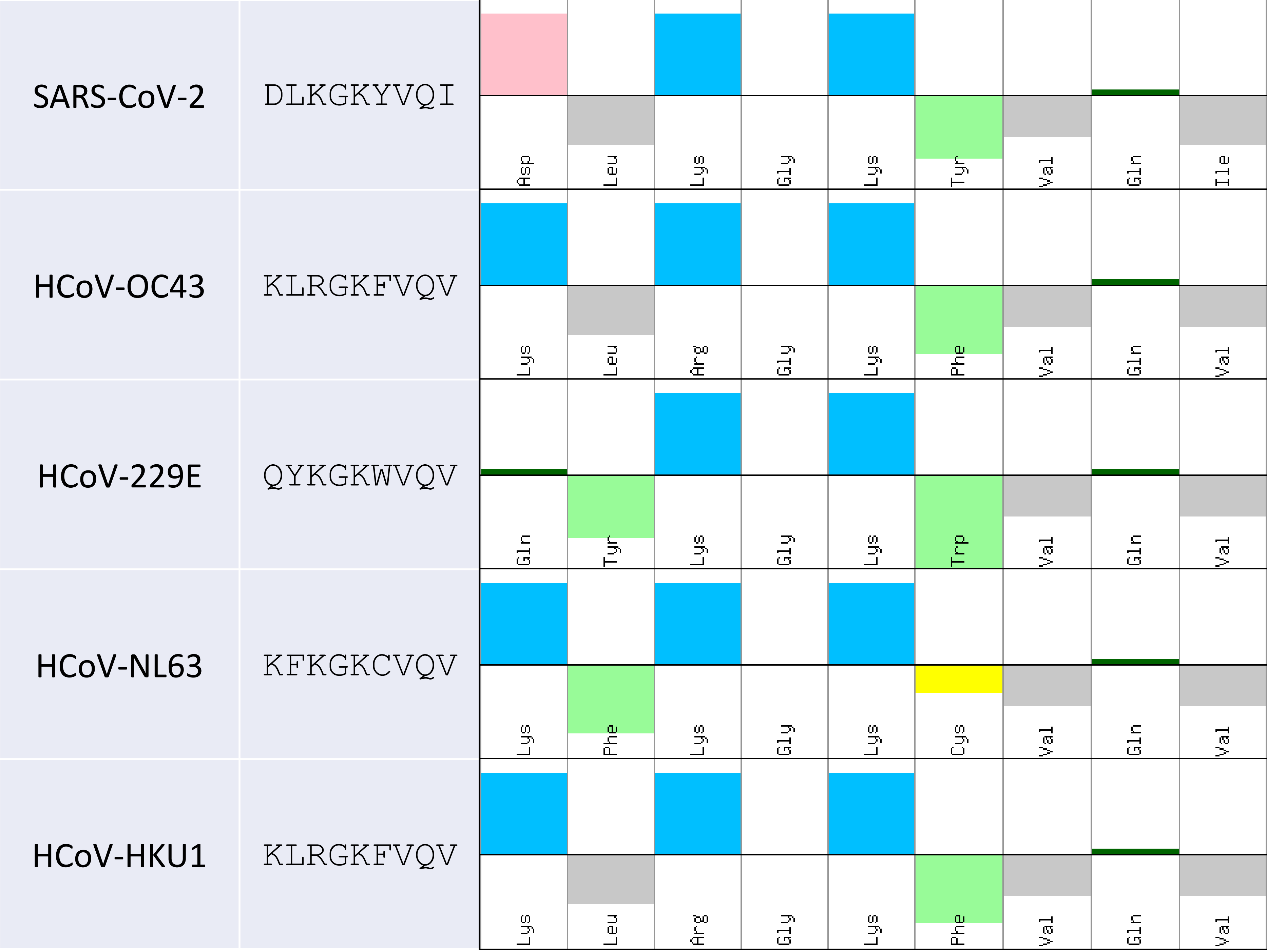


B08_P05

SARS-CoV-2	TPKYKFVRI
HCoV-OC43	TPKYTFGVV
HCoV-229E	TPRHSFRTL
HCoV-NL63	TPKHVFKTL
HCoV-HKU1	TPKYTFGNV

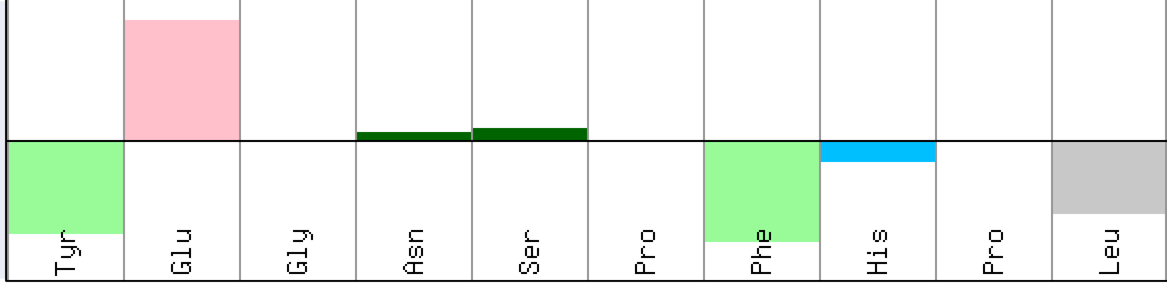


B08_P08



SARS-CoV-2	DLKGKYVQI	Asp	Leu	Lys	Gly	Lys	Tyr	Val	Gln	Ile
HCoV-OC43	KLRGKFVQV	Lys	Leu	Arg	Gly	Lys	Phe	Val	Gln	Val
HCoV-229E	QYKGKWVQV	Gln	Tyr	Lys	Gly	Lys	Trp	Val	Gln	Val
HCoV-NL63	KFKGKCVQV	Lys	Phe	Lys	Gly	Lys	Cys	Val	Gln	Val
HCoV-HKU1	KLRGKFVQV	Lys	Leu	Arg	Gly	Lys	Phe	Val	Gln	Val

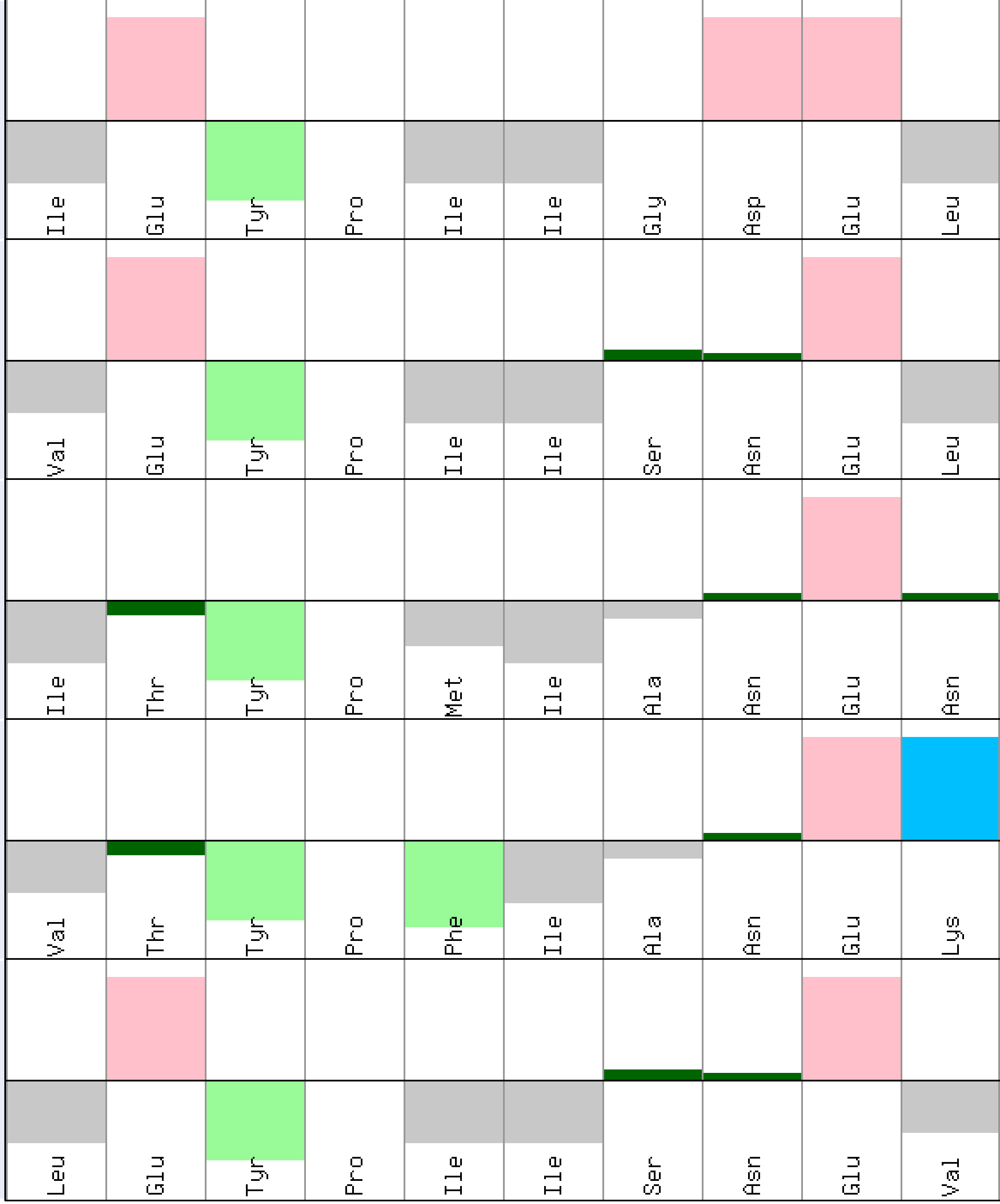
B40_P04

SARS-CoV-2	YEGNSPFHPL	

No alignments to common coronaviruses possible.

B40_P09

SARS-CoV-2	IEYPIIGDEL
HCoV-OC43	VEYPIISNEL
HCoV-229E	ITYPMIANEN
HCoV-NL63	VTYPFIANEK
HCoV-HKU1	LEYPIISNEV

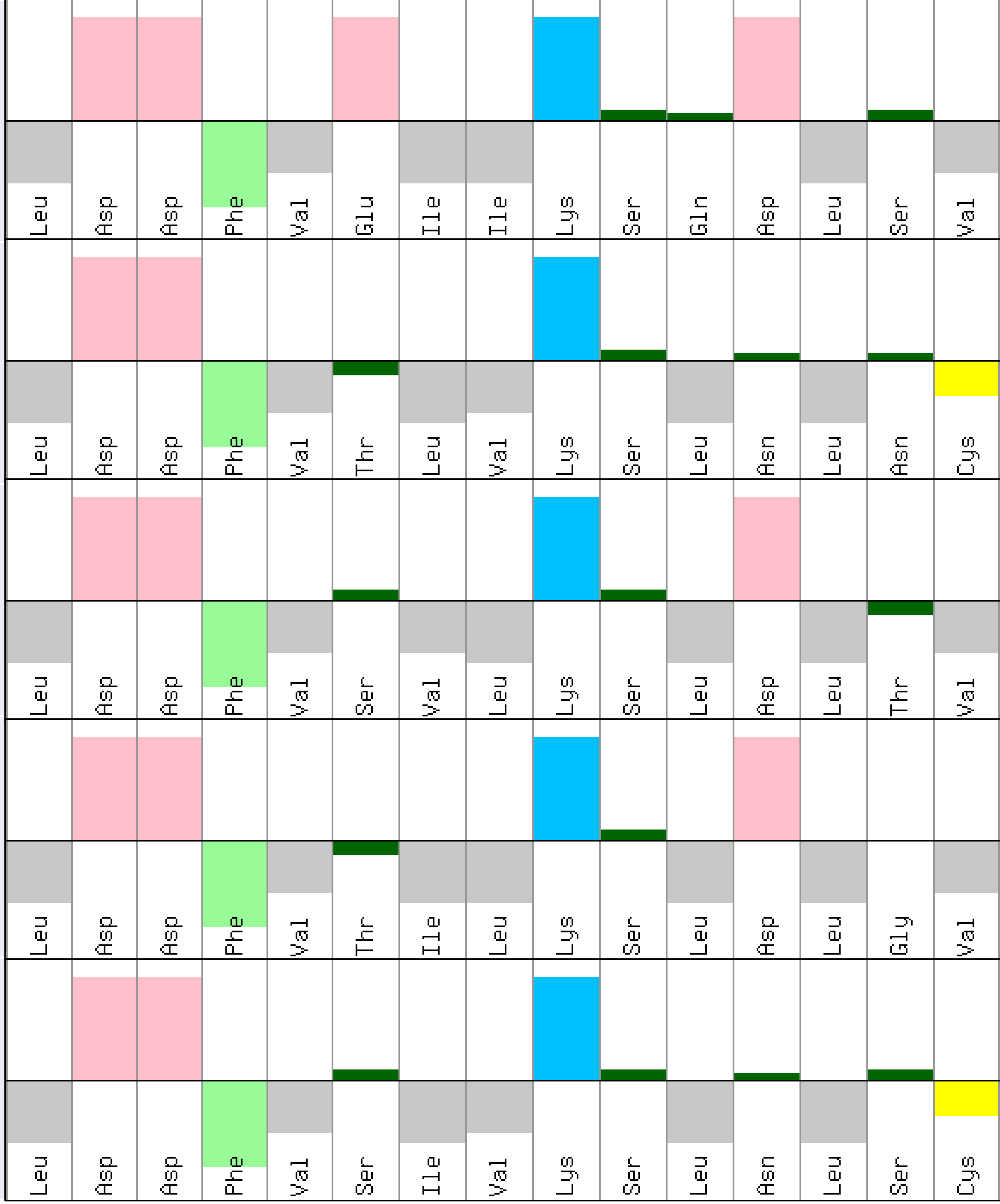


Cross-reactive T-cell epitopes

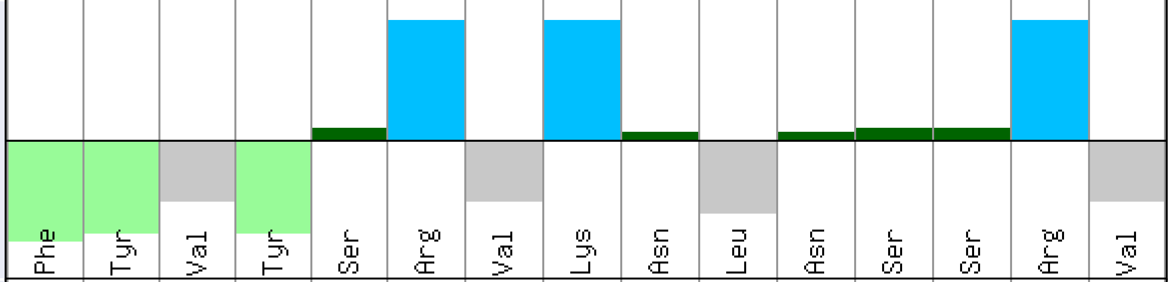
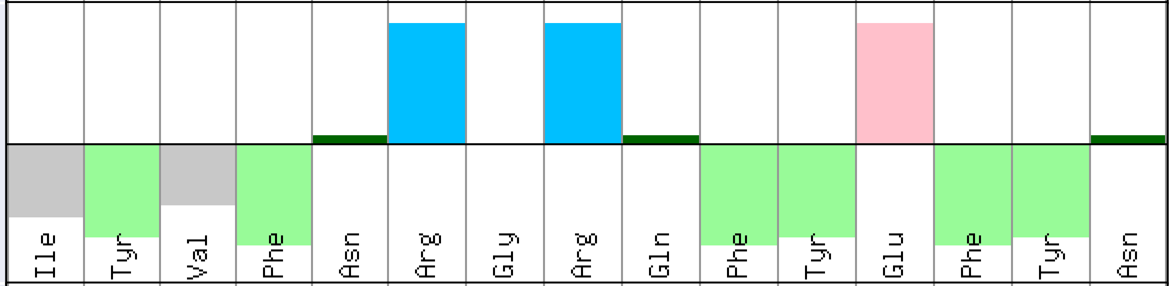
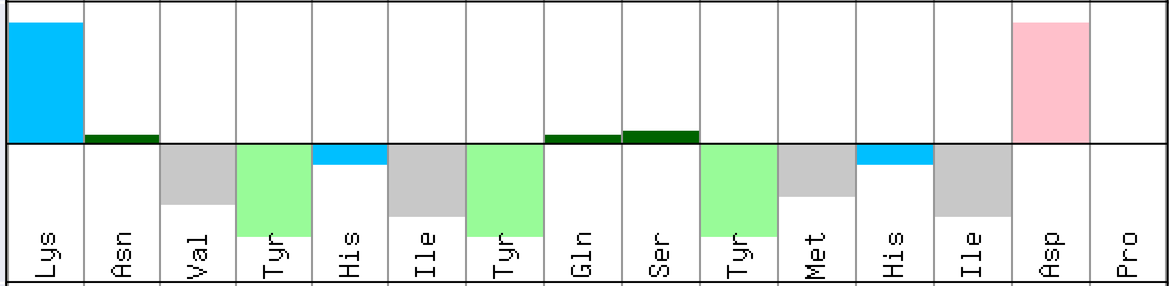
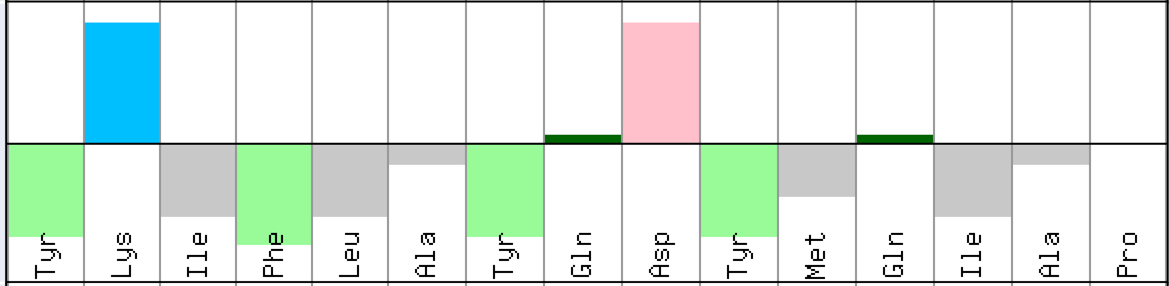
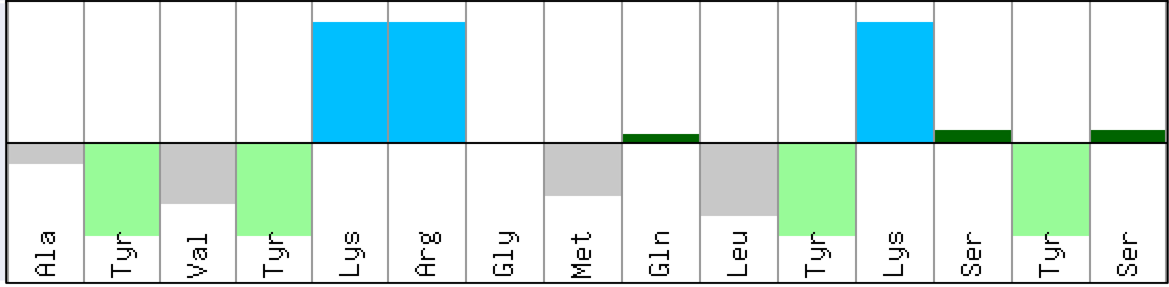
HLA-DR

DR_P11

SARS-CoV-2	LDDFVEIIKSQDLSV
HCoV-OC43	LDDFVTLVKSLNLNC
HCoV-229E	LDDFVSVLKSLDLTV
HCoV-NL63	LDDFVTILKSLDLGV
HCoV-HKU1	LDDFVSIVKSLNLSC

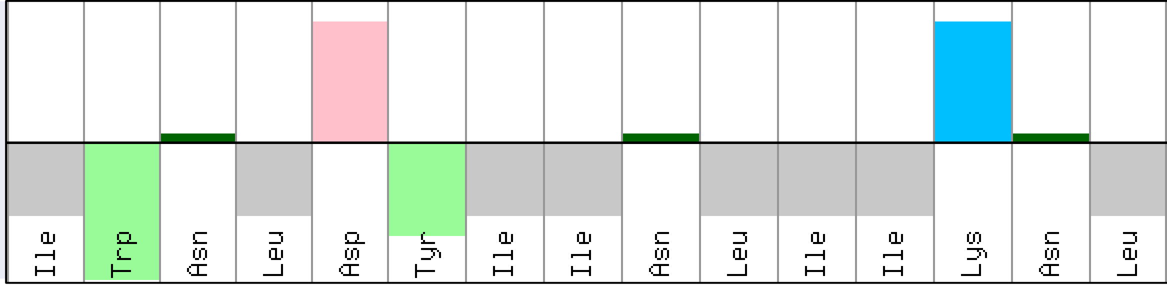


DR_P15

SARS-CoV-2	FYVYSRVKNLNSSRV	
HCoV-OC43	IYVFNRGRQFYEFYN	
HCoV-229E	KNVYHIYQSYMHIDP	
HCoV-NL63	YKIFLAYQDYMQIAP	
HCoV-HKU1	AYVYKRGMQLYKSYS	

DR_P17

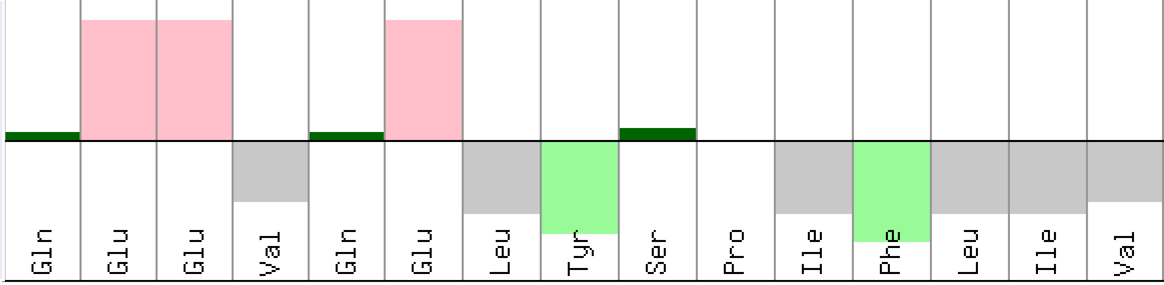
SARS-CoV-2	IWNLDYIINLIIKNL



No alignments to common coronaviruses possible.

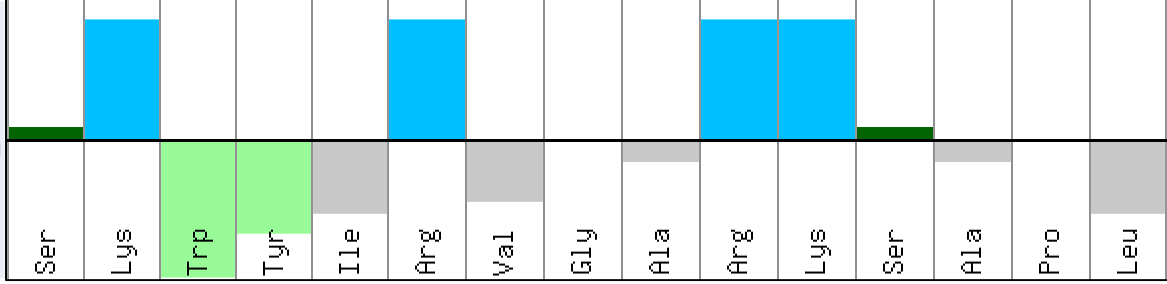
DR_P18

SARS-CoV-2 QEEVQELYSPIFLIV



No alignments to common coronaviruses possible.

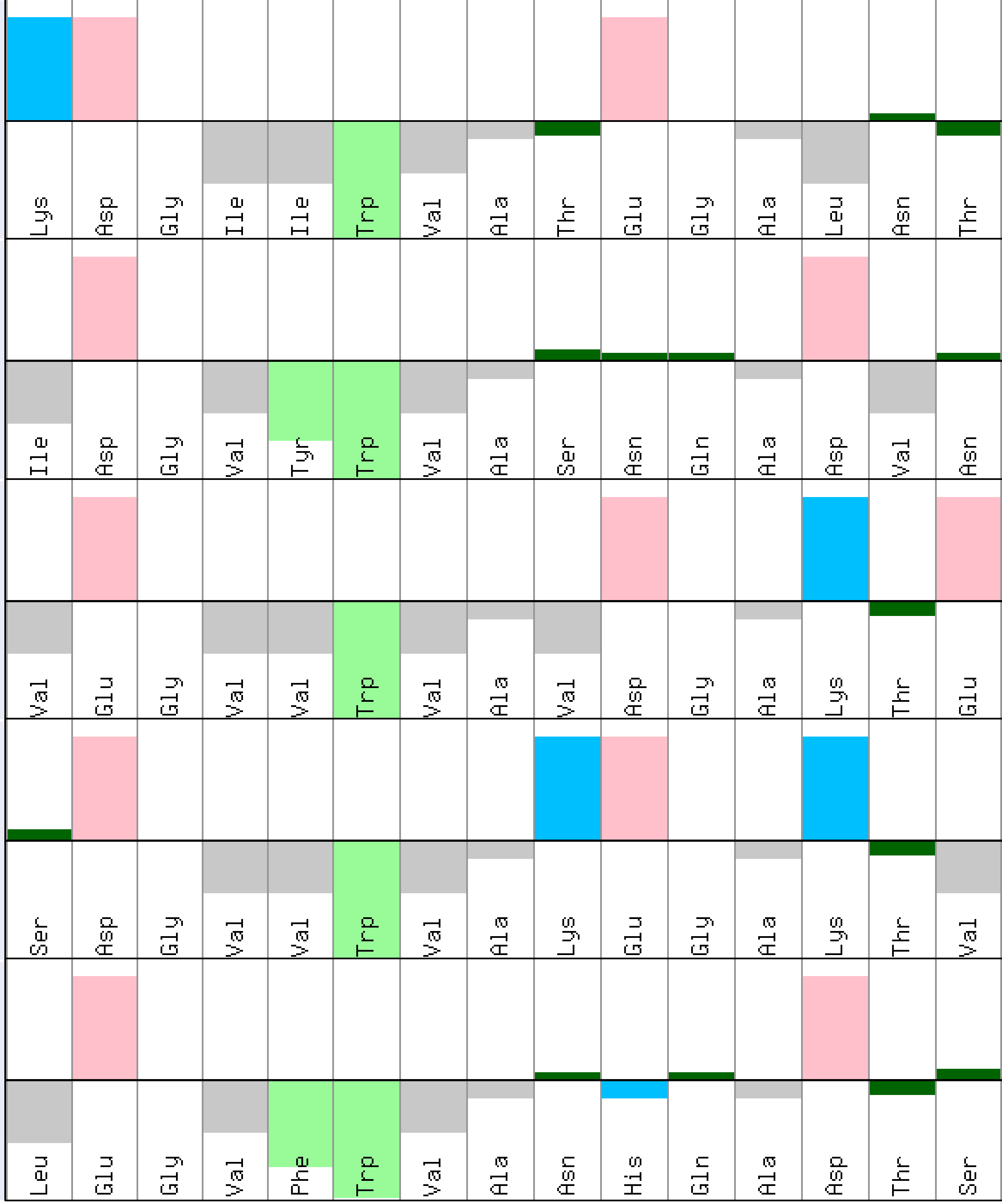
DR_P19

SARS-CoV-2	SKWYIRVGARKSAPL	

No alignments to common coronaviruses possible.

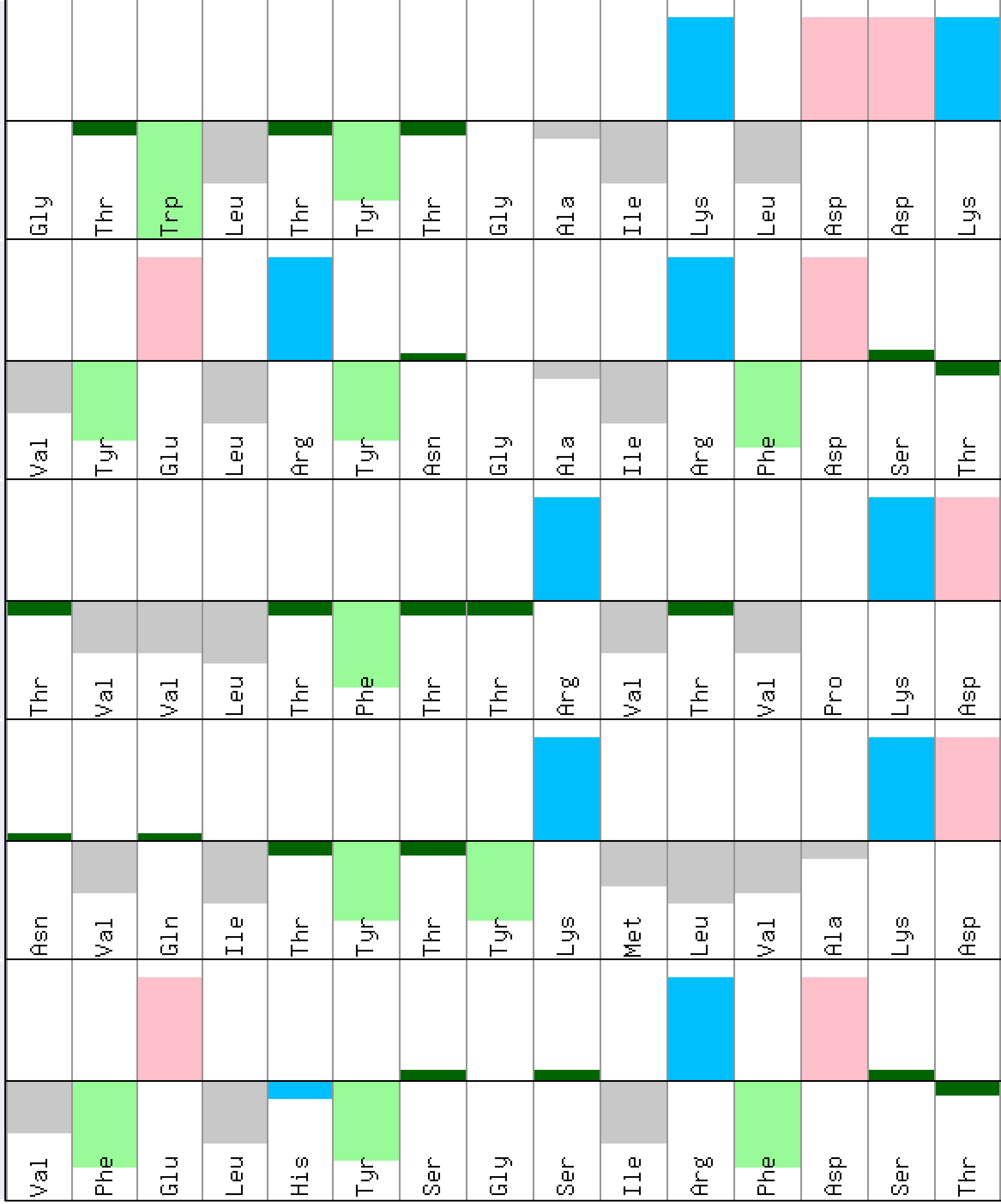
DR_P01

SARS-CoV-2	KDGIIWVATEGALNT	Lys Asp Gly Ile Ile Trp Val Ala Thr Glu Gly Ala Leu Asn Thr
HCoV-OC43	IDGVYWVASNQADVN	Ile Asp Gly Val Tyr Trp Val Ala Ser Asn Gln Ala Asp Val Asn
HCoV-229E	VEGVVWVAVDGAKTE	Val Glu Gly Val Val Trp Val Ala Val Asp Gly Ala Lys Thr Glu
HCoV-NL63	SDGVVWVAKEGAKTV	Ser Asp Gly Val Val Trp Val Ala Lys Glu Gly Ala Lys Thr Val
HCoV-HKU1	LEGVFWVANHQADTS	Leu Glu Gly Val Phe Trp Val Ala Asn His Gln Ala Asp Thr Ser



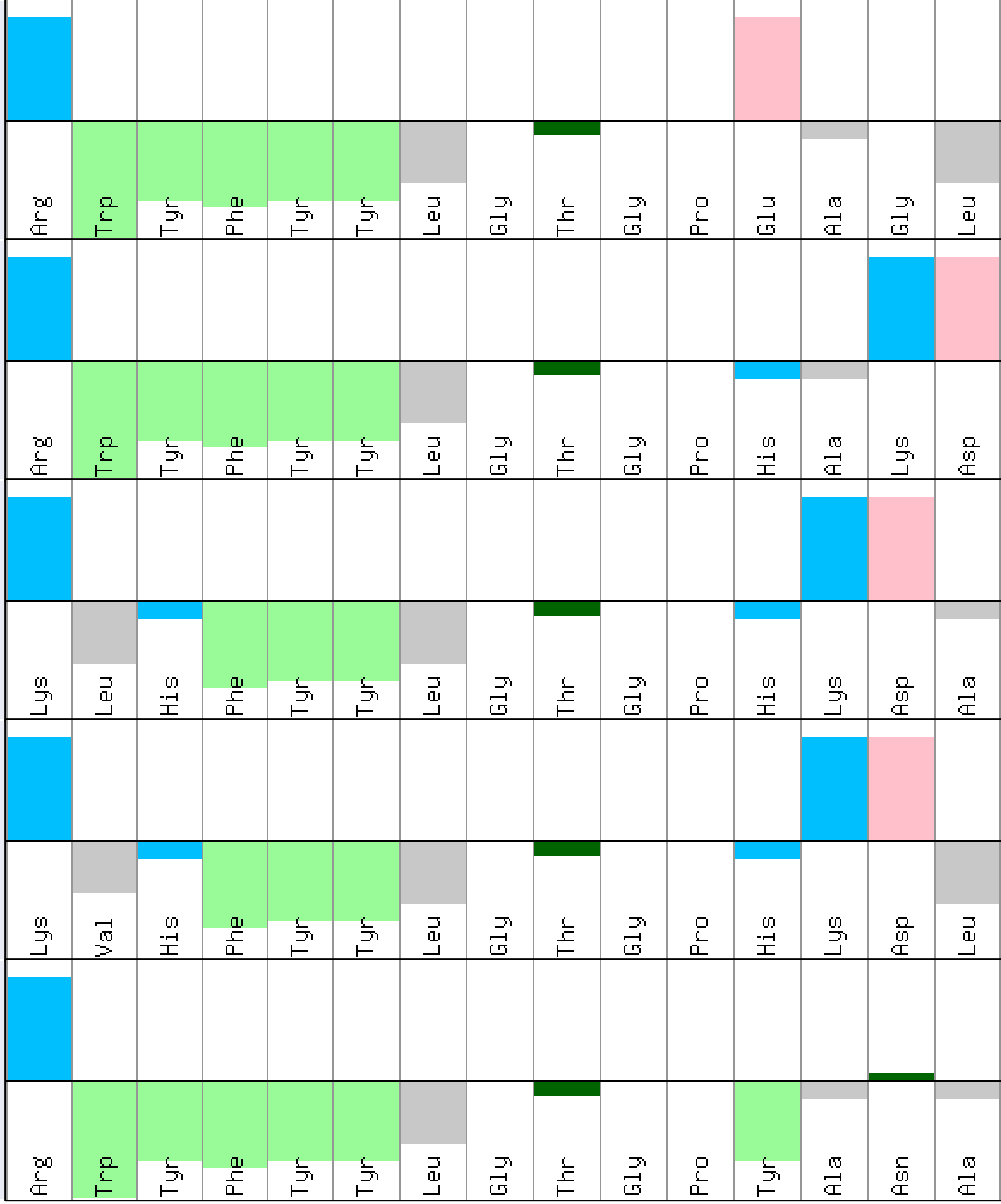
DR_P02

SARS-CoV-2	GTWLTYTGAIKLDDK
HCoV-OC43	VYELRYNGAIRFDST
HCoV-229E	TVVLTFTTRVTVPKD
HCoV-NL63	NVQITYTYKMLVAKD
HCoV-HKU1	VFELHYSGSIRFDST



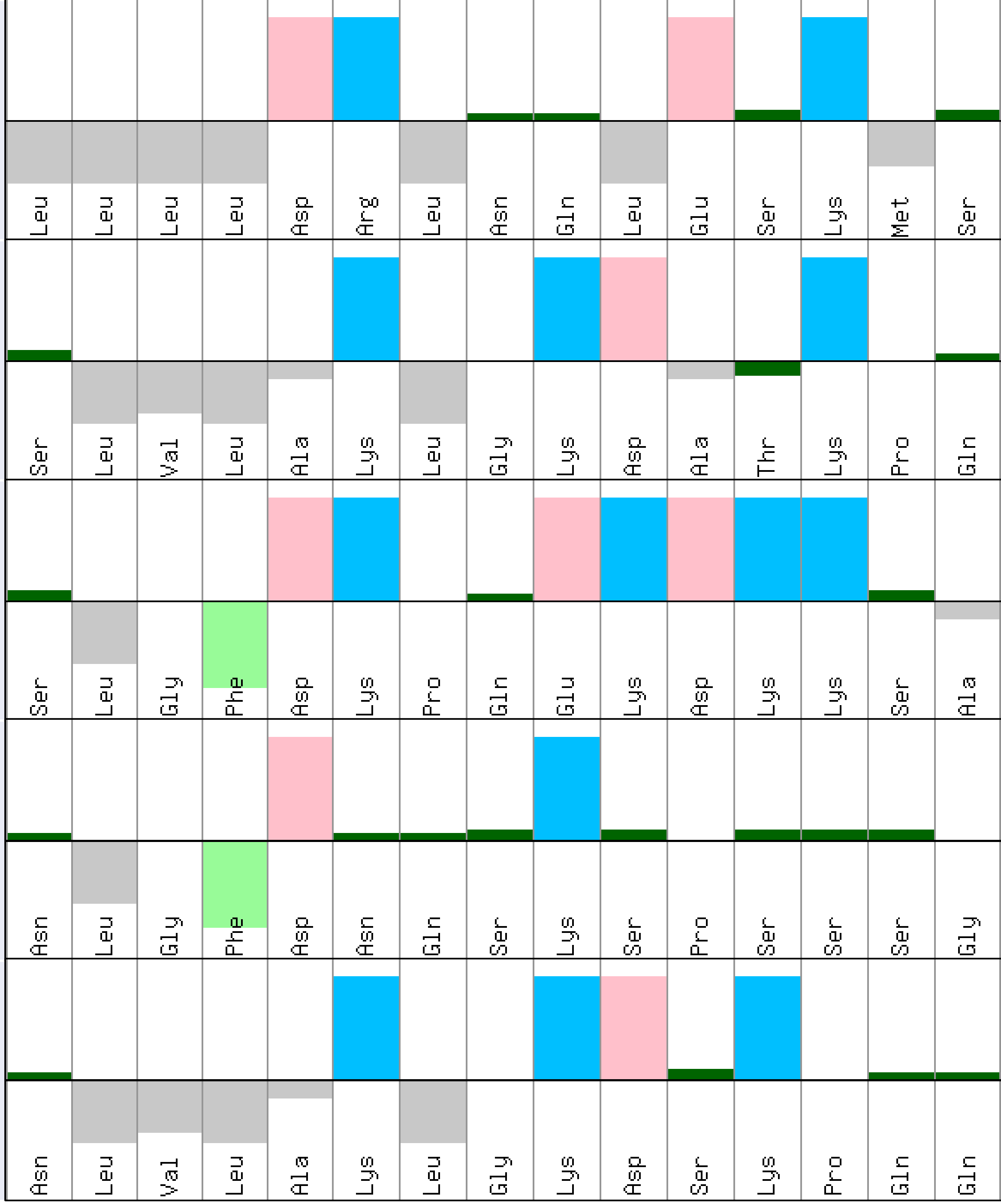
DR_P03

SARS-CoV-2	RWYFYYLGTGPEAGL
HCoV-OC43	RWYFYYLGTGPHAKD
HCoV-229E	KLHFYYLGTGPHKDA
HCoV-NL63	KVHFYYLGTGPHKDL
HCoV-HKU1	RWYFYYLGTGPYANA



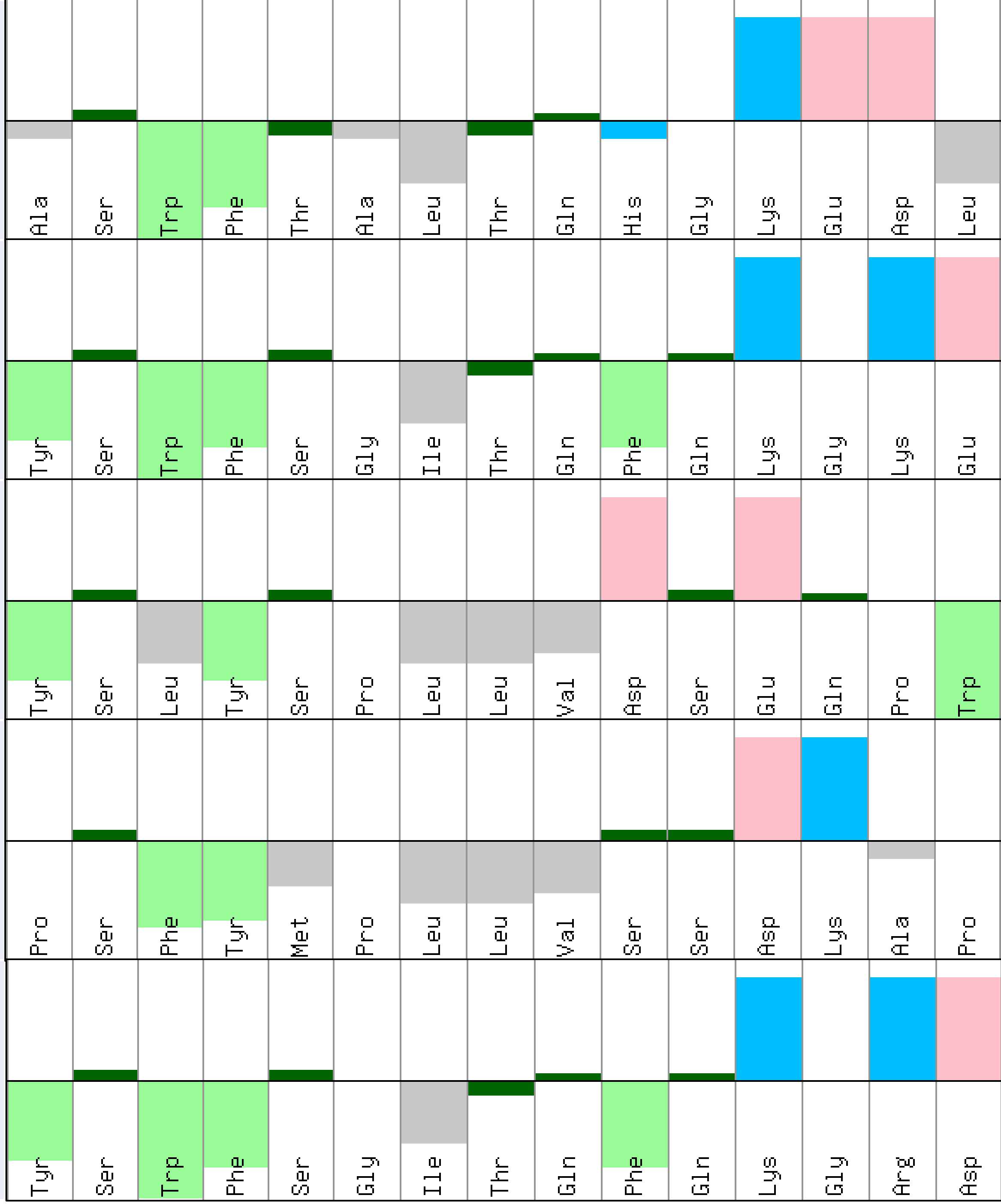
DR_P07

SARS-CoV-2	LLLLDRLNQLESKMS
HCoV-OC43	SLVLAKLGKDATKPQ
HCoV-229E	SLGFDKPQEKDKKSA
HCoV-NL63	NLGFDNQSKSPSSSG
HCoV-HKU1	NLVLAKLGKDSKPQQ



DR_P04

SARS-CoV-2	ASWFTALTQHGKEDL
HCoV-OC43	YSWFSGITQFQKGKE
HCoV-229E	YSLYSPLLVDSEQPW
HCoV-NL63	PSFYMPLLVSSDKAP
HCoV-HKU1	YSWFSGITQFQKGRD



DR_P05

SARS-CoV-2	ASAFFGMSRIGMEVT
HCoV-OC43	AGAFFFGSRLELAKV
HCoV-229E	TAAMLFDSHIVSKES
HCoV-NL63	QAALFFDSEVSTDEV
HCoV-HKU1	PGAFFFGSKLDLVKR