

Supplementary Table 1. Interacting residues of S-ACE2 and S-ligand-ACE2 complexes

Complex	Interacting Residues	Type of Interaction
S-ACE2	1. ACE2:TYR41:OH - Spike:THR500:OG1	HYDROGEN BOND
	2. ACE2:GLN42:NE2 - Spike:GLY446:O	HYDROGEN BOND
	3. ACE2:GLN42:NE2 - Spike:TYR449:OH	HYDROGEN BOND
	4. ACE2:TYR83:OH - Spike:ASN487:OD1	HYDROGEN BOND
	5. ACE2:LYS353:NZ - Spike:GLY496:O	HYDROGEN BOND
	6. ACE2:TYR83:OH - Spike:PHE486	HYDROGEN BOND
	7. ACE2:HIS34:CD2 - Spike:TYR453:OH	HYDROGEN BOND
	8. Spike:GLY502:N - ACE2:LYS353:O	HYDROGEN BOND
	9. Spike:GLN493:NE2:B - ACE2:GLU35:OE1	HYDROGEN BOND
	10. Spike:ASN487:ND2 - ACE2:GLN24:OE1	HYDROGEN BOND
	11. Spike:PHE486 - ACE2:MET82	HYDROPHOBIC
	12. Spike:TYR489 - ACE2:LYS31	HYDROPHOBIC
	13. ACE2:TYR83 - Spike:PHE486	HYDROPHOBIC
	14. ACE2:LYS353:C,O;GLY354:N - Spike:TYR505	HYDROPHOBIC
	15. ACE2:LYS31:NZ - Spike:GLU484:OE1	ELECTROSTATIC
S-GRO-ACE2	1. Spike:ARG466:HH12 - ACE2:GLU467:OE1	HYDROGEN BOND
	2. ACE2:ARG219:NH1 - Spike:GLU340:OE2	ELECTROSTATIC
	3. Spike:ARG346:NH2 - ACE2:ASP225:OD2	ELECTROSTATIC
	4. Spike:LYS356:NZ - ACE2:ASP201:OD2	ELECTROSTATIC
	5. Spike:ARG466:NH2 - ACE2:GLU197:OE2	ELECTROSTATIC
	6. Spike:ARG509:NH1 - ACE2:ASP216:OD2	ELECTROSTATIC
	7. ACE2:GLY211:HN - Spike:ASN343:O	HYDROGEN BOND
	8. ACE2:GLN221:HE22 - Spike:ASN450:O	HYDROGEN BOND
	9. Spike:THR345:HN - ACE2:VAL209:O	HYDROGEN BOND
	10. Spike:THR345:HN - ACE2:ASN210:OD1	HYDROGEN BOND
	11. Spike:THR345:HG1 - ACE2:TYR215:O	HYDROGEN BOND
	12. Spike:ARG346:HH12 - ACE2:ASP216:O	HYDROGEN BOND
	13. Spike:TYR351:HH - ACE2:GLU227:OE1	HYDROGEN BOND
	14. Spike:ARG355:HN - ACE2:GLU197:OE1	HYDROGEN BOND
	15. Spike:LYS356:NZ - ACE2:TYR196	ELECTROSTATIC
	16. ACE2:HIS195 - Spike:PRO337	HYDROPHOBIC
	17. ACE2:HIS195 - Spike:CYS361	HYDROPHOBIC
S-SGO-ACE2	ACE2:TYR217 - Spike:ARG346	HYDROPHOBIC
	1. Spike:ARG466:HH12 - ACE2:GLU467:OE1	HYDROGEN BOND
	2. ACE2:ARG219:NH1 - Spike:GLU340:OE2	ELECTROSTATIC
	3. Spike:ARG346:NH2 - ACE2:ASP225:OD2	ELECTROSTATIC
	4. Spike:LYS356:NZ - ACE2:ASP201:OD2	ELECTROSTATIC
	5. Spike:ARG466:NH2 - ACE2:GLU197:OE2	ELECTROSTATIC
	6. Spike:ARG509:NH1 - ACE2:ASP216:OD2	ELECTROSTATIC
	7. ACE2:GLY211:HN - Spike:ASN343:O	HYDROGEN BOND
	8. ACE2:GLN221:HE22 - Spike:ASN450:O	HYDROGEN BOND
	9. Spike:THR345:HN - ACE2:VAL209:O	HYDROGEN BOND

S-ZBR-ACE2	10.	Spike:THR345:HN - ACE2:ASN210:OD1	HYDROGEN BOND
	11.	Spike:ARG346:HH12 - ACE2:ASP216:O	HYDROGEN BOND
	12.	Spike:TYR351:HH - ACE2:GLU227:OE1	HYDROGEN BOND
	13.	Spike:ARG355:HN - ACE2:GLU197:OE1	HYDROGEN BOND
	14.	Spike:LYS356:NZ - ACE2:TYR196	ELECTROSTATIC
	15.	ACE2:HIS195 - Spike:PRO337	HYDROPHOBIC
	16.	ACE2:HIS195 - Spike:CYS361	HYDROPHOBIC
	17.	ACE2:TYR217 - Spike:ARG346	HYDROPHOBIC
	1.	ACE2:ARG219:NH1 - Spike:GLU340:OE2	ELECTROSTATIC
	2.	Spike:ARG346:NH2 - ACE2:ASP225:OD2	ELECTROSTATIC
	3.	Spike:ARG466:NH1 - ACE2:GLU467:OE1	ELECTROSTATIC
	4.	Spike:ARG466:NH2 - ACE2:GLU197:OE2	ELECTROSTATIC
	5.	Spike:ARG509:NH1 - ACE2:ASP216:OD2	ELECTROSTATIC
	6.	ACE2:GLY211:HN - Spike:ASN343:O	HYDROGEN BOND
	7.	ACE2:SER218:HN - Spike:ARG346:O	HYDROGEN BOND
	8.	Spike:THR345:HN - ACE2:VAL209:O	HYDROGEN BOND
	9.	Spike:TYR351:HH - ACE2:GLU227:OE1	HYDROGEN BOND
S-ZBO-ACE2	10.	Spike:ARG355:HN - ACE2:GLU197:OE1	HYDROGEN BOND
	11.	Spike:ARG357:HN - ACE2:HIS195:O	HYDROGEN BOND
	12.	Spike:ASN360:HD21 - ACE2:HIS195:NE2	HYDROGEN BOND
	13.	ACE2:SER218:CB - Spike:ARG346:O	HYDROGEN BOND
	14.	ACE2:HIS228:CE1 - Spike:ASN450:O	HYDROGEN BOND
	15.	ACE2:SER218:CB - Spike:ARG346:O	ELECTROSTATIC
	16.	ACE2:HIS228:CE1 - Spike:ASN450:O	ELECTROSTATIC
	17.	Spike:ALA352 - ACE2:ILE223	HYDROPHOBIC
	18.	ACE2:TYR217 - Spike:ARG346	HYDROPHOBIC
	1.	Spike:ARG346:HH12 - ACE2:GLU479:OE1	HYDROGEN BOND
	2.	Spike:LYS356:HZ2 - ACE2:GLU238:OE2	HYDROGEN BOND
	3.	Spike:LYS356:NZ - ACE2:GLU231:OE1	ELECTROSTATIC
	4.	Spike:ARG357:NH2 - ACE2:GLU232:OE1	ELECTROSTATIC
	5.	Spike:ARG466:NH1 - ACE2:GLU227:OE1	ELECTROSTATIC
	6.	Spike:ARG509:NH2 - ACE2:GLU479:OE2	ELECTROSTATIC
	7.	ACE2:LYS234:HZ2 - Spike:ARG355:O	HYDROGEN BOND
	8.	ACE2:GLN472:HE22 - Spike:ASN448:OD1	HYDROGEN BOND
S-ZGR-ACE2	9.	ACE2:VAL604:HN - Spike:ASN334:OD1	HYDROGEN BOND
	10.	ACE2:TRP606:HN - Spike:GLU340:OE1	HYDROGEN BOND
	11.	ACE2:THR608:HG1 - Spike:ASN343:O	HYDROGEN BOND
	12.	Spike:LYS356:CA - ACE2:GLU231:OE2	HYDROGEN BOND
	13.	Spike:GLU340:OE1 - ACE2:TRP606	ELECTROSTATIC
	14.	Spike:GLU340:OE1 - ACE2:TRP606	ELECTROSTATIC
	15.	ACE2:ILE223 - Spike:ILE468	HYDROPHOBIC
	16.	ACE2:LYS234 - Spike:LYS356	HYDROPHOBIC
	17.	Spike:ARG346 - ACE2:LYS476	HYDROPHOBIC
	18.	ACE2:PHE603 - Spike:LEU335	HYDROPHOBIC
	1.	Spike:ARG466:HH12 - ACE2:GLU467:OE1	HYDROGEN BOND
	2.	ACE2:ARG219:NH1 - Spike:GLU340:OE2	ELECTROSTATIC
	3.	Spike:ARG346:NH2 - ACE2:ASP225:OD2	ELECTROSTATIC
	4.	Spike:LYS356:NZ - ACE2:ASP201:OD2	ELECTROSTATIC

5. Spike:ARG466:NH2 - ACE2:GLU197:OE2	ELECTROSTATIC
6. Spike:ARG509:NH1 - ACE2:ASP216:OD2	ELECTROSTATIC
7. ACE2:GLY211:HN - Spike:ASN343:O	HYDROGEN BOND
8. ACE2:GLN221:HE22 - Spike:ASN450:O	HYDROGEN BOND
9. Spike:THR345:HN - ACE2:VAL209:O	HYDROGEN BOND
10. Spike:THR345:HN - ACE2:ASN210:OD1	HYDROGEN BOND
11. Spike:THR345:HG1 - ACE2:TYR215:O	HYDROGEN BOND
12. Spike:ARG346:HH12 - ACE2:ASP216:O	HYDROGEN BOND
13. Spike:TYR351:HH - ACE2:GLU227:OE1	HYDROGEN BOND
14. Spike:ARG355:HN - ACE2:GLU197:OE1	HYDROGEN BOND
15. Spike:THR470:HG1 - ACE2:GLU231:OE2	HYDROGEN BOND
16. Spike:LYS356:NZ - ACE2:TYR196	ELECTROSTATIC
17. ACE2:HIS195 - Spike:PRO337	HYDROPHOBIC
18. ACE2:HIS195 - Spike:CYS361	HYDROPHOBIC
19. ACE2:TYR217 - Spike:ARG346	HYDROPHOBIC
