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**Supplemental information**

**Structural and functional characterizations**

**of infectivity and immune evasion**

**of SARS-CoV-2 Omicron**

**Zhen Cui, Pan Liu, Nan Wang, Lei Wang, Kaiyue Fan, Qianhui Zhu, Kang Wang, Ruihong Chen, Rui Feng, Zijing Jia, Minnan Yang, Ge Xu, Boling Zhu, Wangjun Fu, Tianming Chu, Leilei Feng, Yide Wang, Xinran Pei, Peng Yang, Xiaoliang Sunney Xie, Lei Cao, Yunlong Cao, and Xiangxi Wang**

**Table S1. Cryo-EM data collection and atomic model refinement statistics,  
Related to Figure 1, 2 and 6**

Name	Omicron S-trimer at pH 7.5	Omicron S-trimer at pH 5.5	Delta S-trimer (1 RBD Up)	Delta S-trimer (3 RBD Down)	Omicron S-trimer in complex with hACE2	Omicron S-trimer-hACE2 interface
<b>Data collection</b>						
Microscope	FEI Titan Krios	FEI Titan Krios	FEI Titan Krios	FEI Titan Krios	FEI Titan Krios	FEI Titan Krios
Camera	K3	K3	K3	K3	K3	K3
Voltage (kV)	300	300	300	300	300	300
Total dose (e <sup>-</sup> /Å)	60	60	60	60	60	60
Symmetry imposed	C1	C1	C1	C3	C1	C1
<b>Data Processing</b>						
Micrographs (Total)	1,777	6,050	3,106	3,106	5,030	5,030
Micrographs (Used)	1,777	6,050	3,106	3,106	5,030	5,030
Particles selected	830,943	1,789,492	1,317,048	1,317,048	916,297	916,297
Particles included in final reconstruction	221,744	371,808	491,247	171,670	293,334	293,334
<b>Reconstruction</b>						
Pixel size (Å)	1.07	1.07	1.07	1.07	1.07	1.07
Defocus range (µm)	-1.5--2.5	-1.5--2.5	-1.5--2.5	-1.5--2.5	-1.5--2.5	-1.5--2.5
Resolution (Å) (FSC = 0.143)	3.3	3.9	3.5	3.9	3.5	3.6
<b>Model Refinement</b>						
Clashscore	7.1	12.27	7.83	7.93	12.9	3.68
Rotamer outliers (%)	0.00	0.03	0.00	0.04	0.05	0
Molprobrity score	1.77	2.1	1.79	1.81	2.09	1.49
<b>Ramachandran statistics (%)</b>						
Most favored (%)	94.43	91.69	94.67	94.54	92.58	95.18
Allowed (%)	5.51	8.28	5.33	5.46	7.33	4.82
Outliers (%)	0.06	0.03	0	0	0.09	0
<b>R.m.s. deviations</b>						
Bond lengths (Å)	0.003	0.003	0.003	0.003	0.009	0.006
Bond angles (°)	0.56	0.611	0.568	0.562	0.641	1.155