

FR to Ab A										FR to Ab B										FR to Ab C										FR to Ab D1										FR to Ab D2										FR to Ab E1									
Wuhan-Hu-1	1.00	7.05	63.59	63.59	0.95	2.31	37.04	193.00	222.01	Wuhan-Hu-1	1.00	2.93	31.98	31.98	12.17	7.75	34.62	149.10	94.19	Wuhan-Hu-1	1.00	0.79	60.99	60.99	29.87	74.72	71.90	132.67	112.95	Wuhan-Hu-1	1.00	6.20	27.50	27.50	31.36	63.09	85.01	208.92	140.56	Wuhan-Hu-1	1.00	19.12	26.81	26.81	2.42	3.07	35.35	252.06	117.41	Wuhan-Hu-1	1.00	6.38	22.36	22.36	10.43	9.47	75.20	304.26	180.24
Alpha	7.05	1.00	52.82	52.82	8.07	9.52	28.02	173.71	200.81	Alpha	2.93	1.00	28.22	28.22	15.46	10.91	30.78	142.00	88.66	Alpha	0.79	1.00	59.73	59.73	30.89	76.09	70.56	130.86	111.29	Alpha	6.20	1.00	20.06	20.06	39.51	73.20	74.21	190.89	126.52	Alpha	19.12	1.00	6.45	6.45	22.00	22.78	13.62	195.54	82.50	Alpha	6.38	1.00	15.01	15.01	17.48	16.46	64.68	280.00	163.42
Beta	63.59	52.82	1.00	1.00	65.15	67.36	56.98	79.11	96.84	Beta	31.98	28.22	1.00	1.00	48.05	42.21	9.21	88.74	47.13	Beta	60.99	59.73	1.00	1.00	109.08	181.27	8.52	44.53	32.28	Beta	27.50	20.06	1.00	1.00	67.49	107.95	46.08	142.28	88.67	Beta	26.81	6.45	1.00	1.00	29.88	30.71	7.50	177.63	71.44	Beta	22.36	15.01	1.00	1.00	35.11	33.95	56.17	230.40	129.04
Gamma	63.59	52.82	1.00	1.00	65.15	67.36	56.98	79.11	96.84	Gamma	31.98	28.22	1.00	1.00	48.05	42.21	9.21	88.74	47.13	Gamma	60.99	59.73	1.00	1.00	109.08	181.27	8.52	44.53	32.28	Gamma	27.50	20.06	1.00	1.00	67.49	107.95	46.08	142.28	88.67	Gamma	26.81	6.45	1.00	1.00	29.88	30.71	7.50	177.63	71.44	Gamma	22.36	15.01	1.00	1.00	35.11	33.95	56.17	230.40	129.04
Delta	0.95	8.07	65.15	65.15	1.00	2.48	38.34	192.49	225.08	Delta	12.17	15.46	48.05	48.05	1.00	14.22	51.00	134.98	117.83	Delta	29.87	30.89	109.08	109.08	1.00	40.07	123.25	190.22	176.56	Delta	31.36	39.51	67.49	67.49	1.00	25.81	143.04	300.47	216.01	Delta	2.42	22.00	29.88	29.88	1.00	2.47	38.63	254.12	122.66	Delta	10.43	17.48	35.11	35.11	1.00	7.25	93.47	312.66	209.46
Lambda	2.31	9.52	67.36	67.36	2.48	1.00	40.20	199.76	229.43	Lambda	7.75	10.91	42.21	42.21	14.22	1.00	45.05	168.40	109.24	Lambda	74.72	76.09	181.27	181.27	40.07	1.00	200.33	306.52	272.06	Lambda	63.09	73.20	107.95	107.95	25.81	1.00	201.74	403.81	292.33	Lambda	9.47	16.46	33.95	33.95	7.25	1.00	91.80	342.56	206.78										
Mu	37.04	28.02	56.98	56.98	38.34	40.20	1.00	181.16	134.98	Mu	34.62	30.78	9.21	9.21	51.00	45.05	1.00	106.12	44.26	Mu	71.90	70.56	8.52	8.52	123.25	200.33	1.00	56.85	23.88	Mu	85.01	74.21	46.08	46.08	143.04	201.74	1.00	253.93	30.03	Mu	75.20	64.68	56.17	56.17	93.47	91.80	1.00	415.98	59.95										
Omicron	193.00	173.71	79.11	79.11	192.49	199.76	181.16	1.00	228.07	Omicron	149.10	142.00	88.74	88.74	134.98	168.40	106.12	1.00	161.95	Omicron	132.67	130.86	44.53	44.53	190.22	306.52	56.85	1.00	87.96	Omicron	208.92	190.89	142.28	142.28	300.47	403.81	253.93	1.00	334.69	Omicron	304.26	280.00	230.40	230.40	312.66	342.56	415.98	1.00	347.02										
PMS20	222.01	200.81	96.84	96.84	225.08	229.43	134.98	228.07	1.00	PMS20	94.19	88.66	47.13	47.13	117.83	109.24	44.26	161.95	1.00	PMS20	112.95	111.29	32.28	32.28	176.56	272.06	23.88	87.96	1.00	PMS20	140.56	126.52	88.67	88.67	216.01	292.33	30.03	334.69	1.00	PMS20	180.24	163.42	129.04	129.04	209.46	206.78	59.95	347.02	1.00										
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20		Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20		Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20		Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20		Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20										

FR to Ab E2.1										FR to Ab E2.2										FR to Ab E3										FR to Ab F1										FR to Ab F2										FR to Ab F3									
Wuhan-Hu-1	1.00	1.00	11.15	11.15	8.86	19.77	39.76	46.46	100.67	Wuhan-Hu-1	1.00	23.02	49.64	49.64	10.36	22.14	38.98	236.38	95.88	Wuhan-Hu-1	1.00	2.26	9.74	9.74	2.14	2.14	11.36	44.70	25.36	Wuhan-Hu-1	1.00	4.22	14.85	14.85	9.74	7.69	16.65	119.52	68.11	Wuhan-Hu-1	1.00	4.25	14.83	14.83	1.60	2.28	16.18	114.52	38.57	Wuhan-Hu-1	1.00	37.94	106.76	106.76	5.38	4.98	59.76	798.65	252.71
Alpha	1.00	1.00	11.15	11.15	8.86	19.77	39.76	46.46	100.67	Alpha	23.02	1.00	21.64	21.64	35.77	50.25	12.97	173.43	59.22	Alpha	2.26	1.00	7.32	7.32	4.44	4.44	8.90	41.51	22.59	Alpha	4.22	1.00	10.20	10.20	14.37	12.24	11.93	110.64	61.30	Alpha	4.25	1.00	10.15	10.15	5.92	6.64	11.44	105.77	32.91	Alpha	37.94	1.00	49.89	49.89	45.36	44.81	15.82	551.48	155.70
Beta	11.15	11.15	1.00	1.00	20.99	33.12	25.74	31.77	80.55	Beta	49.64	21.64	1.00	1.00	65.14	82.76	19.94	124.80	30.90	Beta	9.74	7.32	1.00	1.00	12.09	12.09	5.00	31.86	14.23	Beta	14.85	10.20	1.00	1.00	26.04	23.69	5.94	91.14	46.37	Beta	14.83	10.15	1.00	1.00	16.67	17.46	9.37	86.81	20.67	Beta	106.76	49.89	1.00	1.00	117.88	117.06	42.42	334.63	70.59
Gamma	11.15	11.15	1.00	1.00	20.99	33.12	25.74	31.77	80.55	Gamma	49.64	21.64	1.00	1.00	65.14	82.76	19.94	124.80	30.90	Gamma	9.74	7.32	1.00																																				