

FR to AB A

Wuhan-Hu-1	1.00	7.05	63.59	63.59	0.95	2.31	37.04	193.00	222.01
Alpha	7.05	1.00	52.82	52.82	8.07	9.52	28.02	173.71	200.81
Beta	63.59	52.82	1.00	1.00	65.15	67.36	56.98	79.11	96.84
Gamma	63.59	52.82	1.00	1.00	65.15	67.36	56.98	79.11	96.84
Delta	0.95	8.07	65.15	65.15	1.00	2.48	38.34	192.49	225.08
Lambda	2.31	9.52	67.36	67.36	2.48	1.00	40.20	199.76	229.43
Mu	37.04	28.02	56.98	56.98	38.34	40.20	1.00	181.16	134.98
Omicron	193.00	173.71	79.11	79.11	192.49	199.76	181.16	1.00	228.07
PMS20	222.01	200.81	96.84	96.84	225.08	229.43	134.98	228.07	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB B

Wuhan-Hu-1	1.00	2.93	31.98	31.98	12.17	7.75	34.62	149.10	94.19
Alpha	2.93	1.00	28.22	28.22	15.46	10.91	30.78	142.00	88.66
Beta	31.98	28.22	1.00	1.00	48.05	42.21	9.21	88.74	47.13
Gamma	31.98	28.22	1.00	1.00	48.05	42.21	9.21	88.74	47.13
Delta	12.17	15.46	48.05	48.05	1.00	14.22	51.00	134.98	117.83
Lambda	7.75	10.91	42.21	42.21	14.22	1.00	45.05	168.40	109.24
Mu	34.62	30.78	9.21	9.21	51.00	45.05	1.00	106.12	44.26
Omicron	149.10	142.00	88.74	88.74	134.98	168.40	106.12	1.00	161.95
PMS20	94.19	88.66	47.13	47.13	117.83	109.24	44.26	161.95	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB C

Wuhan-Hu-1	1.00	0.79	60.99	60.99	29.87	74.72	71.90	132.67	112.95
Alpha	0.79	1.00	59.73	59.73	30.89	76.09	70.56	130.86	111.29
Beta	60.99	59.73	1.00	1.00	109.08	181.27	8.52	44.53	32.28
Gamma	60.99	59.73	1.00	1.00	109.08	181.27	8.52	44.53	32.28
Delta	29.87	30.89	109.08	109.08	1.00	40.07	123.25	190.22	176.56
Lambda	74.72	76.09	181.27	181.27	40.07	1.00	200.33	306.52	272.06
Mu	71.90	70.56	8.52	8.52	123.25	200.33	1.00	56.85	23.88
Omicron	132.67	130.86	44.53	44.53	190.22	306.52	56.85	1.00	87.96
PMS20	112.95	111.29	32.28	32.28	176.56	272.06	23.88	87.96	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB D1

Wuhan-Hu-1	1.00	6.20	27.50	27.50	31.36	63.09	85.01	208.92	140.56
Alpha	6.20	1.00	20.06	20.06	39.51	73.20	74.21	190.89	126.52
Beta	27.50	20.06	1.00	1.00	67.49	107.95	46.08	142.28	88.67
Gamma	27.50	20.06	1.00	1.00	67.49	107.95	46.08	142.28	88.67
Delta	31.36	39.51	67.49	67.49	1.00	25.81	143.04	300.47	216.01
Lambda	63.09	73.20	107.95	107.95	25.81	1.00	201.74	403.81	292.33
Mu	85.01	74.21	46.08	46.08	143.04	201.74	1.00	253.93	30.03
Omicron	208.92	190.89	142.28	142.28	300.47	403.81	253.93	1.00	334.69
PMS20	140.56	126.52	88.67	88.67	216.01	292.33	30.03	334.69	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB D2

Wuhan-Hu-1	1.00	19.12	26.81	26.81	2.42	3.07	35.35	252.06	117.41
Alpha	19.12	1.00	6.45	6.45	22.00	22.78	13.62	195.54	82.50
Beta	26.81	6.45	1.00	1.00	29.88	30.71	7.50	177.63	71.44
Gamma	26.81	6.45	1.00	1.00	29.88	30.71	7.50	177.63	71.44
Delta	2.42	22.00	29.88	29.88	1.00	2.47	38.63	254.12	122.66
Lambda	3.07	22.78	30.71	30.71	2.47	1.00	39.51	262.88	124.08
Mu	35.35	13.62	7.50	7.50	38.63	39.51	1.00	198.44	60.62
Omicron	252.06	195.54	177.63	177.63	254.12	262.88	198.44	1.00	355.81
PMS20	117.41	82.50	71.44	71.44	122.66	124.08	60.62	355.81	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB E1

Wuhan-Hu-1	1.00	6.38	22.36	22.36	10.43	9.47	75.20	304.26	180.24
Alpha	6.38	1.00	15.01	15.01	17.48	16.46	64.68	280.00	163.42
Beta	22.36	15.01	1.00	1.00	35.11	33.95	56.17	230.40	129.04
Gamma	22.36	15.01	1.00	1.00	35.11	33.95	56.17	230.40	129.04
Delta	10.43	17.48	35.11	35.11	1.00	7.25	93.47	312.66	209.46
Lambda	9.47	16.46	33.95	33.95	7.25	1.00	91.80	342.56	206.78
Mu	75.20	64.68	56.17	56.17	93.47	91.80	1.00	415.98	59.95
Omicron	304.26	280.00	230.40	230.40	312.66	342.56	415.98	1.00	347.02
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

FR to AB E2.1

Wuhan-Hu-1	1.00	1.00	11.15	11.15	8.86	19.77	39.76	46.46	100.67
Alpha	1.00	1.00	11.15	11.15	8.86	19.77	39.76	46.46	100.67
Beta	11.15	11.15	1.00	1.00	20.99	33.12	25.74	31.77	80.55
Gamma	11.15	11.15	1.00	1.00	20.99	33.12	25.74	31.77	80.55
Delta	8.86	8.86	20.99	20.99	1.00	11.58	52.13	57.20	118.44
Lambda	19.77	19.77	33.12	33.12	11.58	1.00	67.39	75.41	140.34
Mu	39.76	39.76	25.74	25.74	52.13	67.39	1.00	65.69	43.58
Omicron	46.46	46.46	31.77	31.77	57.20	75.41	65.69	1.00	120.03
PMS20	100.67	100.67	80.55	80.55	118.44	140.34	43.58	120.03	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB E2.2

Wuhan-Hu-1	1.00	23.02	49.64	49.64	10.36	22.14	38.98	236.38	95.88
Alpha	23.02	1.00	21.64	21.64	35.77	50.25	12.97	173.43	59.22
Beta	49.64	21.64	1.00	1.00	65.14	82.76	19.94	124.80	30.90
Gamma	49.64	21.64	1.00	1.00	65.14	82.76	19.94	124.80	30.90
Delta	10.36	35.77	65.14	65.14	1.00	10.67	53.38	271.23	116.17
Lambda	22.14	50.25	82.76	82.76	10.67	1.00	69.75	310.84	139.24
Mu	38.98	12.97	19.94	19.94	53.38	69.75	1.00	169.61	40.94
Omicron	236.38	173.43	124.80	124.80	271.23	310.84	169.61	1.00	142.44
PMS20	95.88	59.22	30.90	30.90	116.17	139.24	40.94	142.44	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB E3

Wuhan-Hu-1	1.00	2.26	9.74	9.74	2.14	2.14	11.36	44.70	25.36
Alpha	2.26	1.00	7.32	7.32	4.44	4.44	8.90	41.51	22.59
Beta	9.74	7.32	1.00	1.00	12.09	12.09	5.00	31.86	14.23
Gamma	9.74	7.32	1.00	1.00	12.09	12.09	5.00	31.86	14.23
Delta	2.14	4.44	12.09	12.09	1.00	3.38	13.74	42.96	28.04
Lambda	2.14	4.44	12.09	12.09	3.38	1.00	13.74	47.80	28.04
Mu	11.36	8.90	5.00	5.00	13.74	13.74	1.00	38.45	12.57
Omicron	44.70	41.51	31.86	31.86	42.96	47.80	38.45	1.00	39.30
PMS20	25.36	22.59	14.23	14.23	28.04	28.04	12.57	39.30	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB F1

Wuhan-Hu-1	1.00	4.22	14.85	14.85	9.74	7.69	16.65	119.52	68.11
Alpha	4.22	1.00	10.20	10.20	14.37	12.24	11.93	110.64	61.30
Beta	14.85	10.20	1.00	1.00	26.04	23.69	5.94	91.14	46.37
Gamma	14.85	10.20	1.00	1.00	26.04	23.69	5.94	91.14	46.37
Delta	9.74	14.37	26.04	26.04	1.00	7.23	28.01	120.46	84.48
Lambda	7.69	12.24	23.69	23.69	7.23	1.00	25.62	136.41	81.04
Mu	16.65	11.93	5.94	5.94	28.01	25.62	1.00	102.49	44.11
Omicron	119.52	110.64	91.14	91.14	120.46	136.41	102.49	1.00	122.97
PMS20	68.11	61.30	46.37	46.37	84.48	81.04	44.11	122.97	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB F2

Wuhan-Hu-1	1.00	4.25	14.83	14.83	1.60	2.28	16.18	114.52	38.57
Alpha	4.25	1.00	10.15	10.15	5.92	6.64	11.44	105.77	32.91
Beta	14.83	10.15	1.00	1.00	16.67	17.46	9.37	86.81	20.67
Gamma	14.83	10.15	1.00	1.00	16.67	17.46	9.37	86.81	20.67
Delta	1.60	5.92	16.67	16.67	1.00	2.31	18.03	114.47	40.78
Lambda	2.28	6.64	17.46	17.46	2.31	1.00	18.83	119.42	41.73
Mu	16.18	11.44	9.37	9.37	18.03	18.83	1.00	104.32	19.27
Omicron	114.52	105.77	86.81	86.81	114.47	119.42	104.32	1.00	114.30
PMS20	38.57	32.91	20.67	20.67	40.78	41.73	19.27	114.30	1.00
	Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20

FR to AB F3

Wuhan-Hu-1	1.00	37.94	106.76	106.76	5.38	4.98	59.76	798.65	252.71
Alpha	37.94	1.00	49.89	49.89	45.36	44.81	15.82	551.48	155.70
Beta	106.76	49.89	1.00	1.00	117.88	117.06	42.42	334.63	70.59
Gamma	106.76	49.89	1.00	1.00	117.88	117.06	42.42	334.63	70.59
Delta	5.38	45.36	117.88	117.88	1.00	4.75	68.35	800.63	271.68
Lambda	4.98	44.81	117.06	117.06	4.75	1.00	67.72	843.41	270.27
Mu	59.76	15.82	42.42	42.42	68.35	67.72	1.00	519.01	120.77
Omicron	798.65	551.48	334.63	334.63	800.63	843.41	519.01	1.00	406.92
PMS20	252.71	155.70	70.59	70.59	271.68	270.27	120.77	406.92	1.00
Wuhan-Hu-1	Alpha	Beta	Gamma	Delta	Lambda	Mu	Omicron	PMS20	