Table S2a. Average gene expression values of the complement and coagulation entities acquired from the analysis of microarray dataset (source: GEO accession GSE177477, Title: Type I interferon pathways in SARS-CoV-2-infected individuals from Pakistan)

S.no	Gene ID	Model genes symbol	Description of genes in the microarray expression dataset	Average symptomatic	Average normal
1.	TC0100007290.hg.1		complement C1q A chain (C1QA)[a]	5.766016649	5.441527489
2.	TC0100007292.hg.1		complement C1q B chain (C1QB)[a]	5.674930545	5.33326366
3.	TC0100007291.hg.1		complement C1q C chain (C1QC)[a]	6.578637501	5.931605926
		C1q	Assumed mean value of C1QA, C1QB and C1QC	6.006528232	5.568799025
4.	TC1200012744.hg.1	C1r	complement C1r (C1R)	2.789566056	2.717710458
5.	TC1200012592.hg.1	C1s	complement C1s (C1S)	3.067417806	3.050936823
6.	TC0600014105.hg.1	C2	complement C2	6.169682911	5.983513771
7.	TC1900009443.hg.1	C3	complement C3	5.205237102	5.051191456
8.	TC0600007628.hg.1	C4b	complement C4B (C4B)	5.484938717	5.703110477
9.	TC0600007628.hg.1	C4a	complement C4A (C4A)	5.484938717	5.703110477
10.	TC0900011394.hg.1	C5	complement C5	3.85969341	4.266834172
11.	TC0500010592.hg.1	C6	complement C6	4.003036475	4.082914683
12.	TC0500007238.hg.1	C7	complement C7	3.228319779	3.525506561
13.	TC0100008454.hg.1		complement C8 alpha chain (C8A)[a]	3.088029143	3.116979119
14.	TC0900009247.hg.1		complement C8 gamma chain (C8G)[a]	5.098091152	4.91679831
		C8	Assumed mean value of C8A and C8G	4.093060148	4.016888715
15.	TC0500013300.hg.1	C9	complement C9	3.455719368	3.02688555

16.	TC0100011397.hg.1		complement component 4 binding protein beta (C4BPB)[a]	2.729762065	2.491267509
17.	TC0100011402.hg.1		complement component 4 binding protein alpha(C4BPA)[a]	4.507298229	4.467124573
		C4BP	Assumed mean value of C4BPA and C4BPB	3.618530147	3.479196041
18.	TC0300013461.hg.1	MASP1	MBL associated serine protease 1	4.760726973	4.545585038
19.	TC0100012868.hg.1	MASP2	MBL associated serine protease 2	4.426790654	4.376543657
20.	TC0500012965.hg.1	MBL	lectin, mannose binding 2 (LMAN2)	8.665749334	8.527253909
21.	TC1200009807.hg.1	C3aR1	complement C3a receptor 1 (C3AR1)	7.705047159	6.761735891
22.	TC1900011770.hg.1	C5aR1	complement C5a receptor 1 (C5AR1)	10.16623494	9.970222126
23.	TC0100011064.hg.1	FH	complement factor H (CFH)	3.711950407	3.906269206
24.	TC0600014106.hg.1	FB	complement factor B (CFB)	2.768328985	2.455255566
25.	TC0400011580.hg.1	FI	complement factor I (CFI)	4.079502469	3.780938586
26.	TC1900006494.hg.1	PFD	complement factor D (CFD)	6.597460437	6.375797414
27.	TC0X00009580.hg.1	P	complement factor properdin (CFP)	7.061182572	7.366588348
28.	TC0100011406.hg.1	DAF	CD55 molecule/Decay accelerating factor (CD55)	11.44265642	11.27302089
29.	TC0100011414.hg.1	CR1	complement C3b/C4b receptor 1 (Knops blood group)	9.94664775	9.121356826
30.	TC0700006890.hg.1	IL-6	interleukin 6	3.578358241	2.921238268
31.	TC0100010078.hg.1	IL-6R	interleukin 6 receptor	7.927322874	9.081260049
32.	TC1400010563.hg.1	IgG	immunoglobulin heavy variable 5-78 (IGHV5-78) (pseudogene)	4.822236599	5.091758207
33.	TC1100007684.hg.1	C1-INH	serpin family G member 1; SERPING1 produce C1-INH	4.71138401	5.354422324
34.	TC1100013161.hg.1	CD59	CD59 molecule (CD59 blood group)	7.617894872	6.59121831

35.	TC0500012971.hg.1	F12	coagulation factor XII	5.956006529	5.967694807
36.	TC0400009551.hg.1	F11	coagulation factor XI	4.121960712	4.020726337
37.	TC1300008109.hg.1	F10	coagulation factor X	5.684616975	5.563305824
38.	TC0X00008578.hg.1	F9	coagulation factor IX	2.261295916	2.394016489
39.	TC1300008108.hg.1	F7	coagulation factor VII	6.213601721	5.955238006
40.	TC0X00008874.hg.1		coagulation factor VIII associated 2(F8A2)[a]	8.479164615	8.676219291
41.	TC0X00008874.hg.1		coagulation factor VIII associated 3(F8A3)[a]	8.479164615	8.676219291
42.	TC0X00008874.hg.1		coagulation factor VIII associated 1(F8A1)[a]	8.479164615	8.676219291
		F8	Assumed mean value of F8A1, F8A2 and F8A3	8.479164615	8.676219291
43.	TC0100016356.hg.1	F5	coagulation factor V	7.43315821	5.906725668
44.	TC1100007463.hg.1	F2	coagulation factor II, thrombin	5.153948356	5.053519954
45.	TC0100014988.hg.1	F3	coagulation factor III, tissue factor	4.979708717	4.298106767
46.	TC0400012181.hg.1	F1	fibrinogen alpha chain (FGA)	3.207277987	3.267204417
47.	TC0100016445.hg.1	AT3	serpin family C member 1 (SERPINC1)	2.803441006	2.663167435
48.	TC0200015194.hg.1	TFPI	tissue factor pathway inhibitor	4.791216244	3.120922171
49.	TC1200009847.hg.1	A2M	alpha-2-macroglobulin	4.553430733	5.167942675
50.	TC0600010085.hg.1	Pg	Plasminogen (PLG)	4.291519448	4.536142732
51.	TC1900011223.hg.1	KAL	Kallikrein (KLK)	4.858593207	4.774580567
52.	TC0400012875.hg.1	Pre-KAL	kallikrein B1 (KLKB1)	3.289896258	3.409488905

53.	TC0800010275.hg.1	tPA	plasminogen activator, tissue type (PLAT)	6.859149007	6.357348869
54.	TC1400010647.hg.1	B2R	bradykinin receptor B2 (BDKRB2)	4.155524838	4.046332648
55.	TC0300009777.hg.1	HK	High molecular weight kininogen (HK); Kininogen 1 (KNG1)	2.733984514	2.452658997
56.	TC0700008582.hg.1	PAI-1	Plasminogen activator inhibitor-1 known as Serpin family E member 1 belong to SERPINE1.	4.611072364	4.09542592

Table S1b. Concentration of the entities explored from experimental studies and estimation.

S. no	Model genes symbol	Description	Concentration
1.	CoV2S	Assay: S-Protein samples [S1], [S2] and [S3] = 5, 20, 80 ($\frac{pg}{mL}$), respectively. Consider average value for $[CoV2S]^b = 35\ \frac{pg}{mL}$ **(**Cai et al. 2021**).**	1.942855×10^{-9}
2.	CoV2N	Assay: N-Protein samples [N1], [N2] and [N3] = 8, 80, 800 ($\frac{pg}{mL}$), respectively. Consider average value for $[CoV2N]^b = 296\frac{pg}{mL}$ = (Cai et al. 2021).	1.643096×10^{-8}
3.	CoV2M	Assumption	1.0×10^{-12}
4.	CoV2E	Assumption	1.0×10^{-12}
5.	gC1qR	Range of concentration [gC1qR], 0.0 to 5.0 $\frac{\mu g}{mL}$ (Savitt et al. 2021). Assumed for $[gC1qR]^c = 2.5\ \frac{\mu g}{mL}$.	1.38775×10^{-7}
6.	TAFI	Normal values of [TAFI] is 1.76 to 28.9 $\frac{ng}{mL}$ (Nougier et al. 2020). Assumed for $[TAFI]^d = 15.345\ \frac{ng}{mL}$.	8.52×10^{-7}
7.	TAFIa	For Activated TAFI, $[TAFIa]^d = 60.2\ \frac{ng}{mL}$ (Nougier et al. 2020).	3.341702×10^{-6}
8.	Glu-Pg	The expression of Glu-Plasminogen [Glu-Pg] is taken same as the value for [Pg] available in the microarray expression data that is [Pg] = 4.291519448.	4.291519448
9.	Lys-Pg	Assumption for the expression of Lys-Plasminogen (Lys-Pg) based on the expression of Glu-Pg.	5.291519448
10.	BK	Assumption for the expression of BK based on the expression of bradykinin receptor B2 (B2R)	3.046332648

- **Mathematical calculation**

(b) [CoV2S] = $35\frac{\text{pg}}{\text{mL}} = 35\frac{\text{ng}}{\text{L}} = (35 \times 10^{-9})(0.05551)\frac{\text{Mol}}{\text{L}} = 1.942855 \times 10^{-9}$ M. Implies $35\frac{\text{pg}}{\text{mL}} = 1.942855 \times 10^{-9}$ M

[CoV2N] = $296\frac{\text{pg}}{\text{mL}} = 16.43096 \times 10^{-9}$ M.

(c) [gC1qR] = $2.5\frac{\mu\text{g}}{\text{mL}} = 0.138775 \times 10^{-6}$ M.

(d) [TAFI] = $15.345\frac{\text{ng}}{\text{mL}} = 15.345\ \frac{\mu\text{g}}{\text{L}} = 0.852 \times 10^{-6}$M.

[TAFIa] = $60.2\frac{\text{ng}}{\text{mL}} = 60.2\ \frac{\mu\text{g}}{\text{L}} = 3.341702 \times 10^{-6}$M.

- As, 1g = 0.05551 mol.
- $\frac{\text{Mol}}{\text{L}}$ can be taken in molarity (M).

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