

**S1 Table. Specific release rate matrix.** The mean  $\pm$  standard deviation specific release rates shown as the heat map in Fig. 3C. The mutants are colour-coded base on the amino-acid type. The diagonal elements shown in light blue represent the release of the infecting strains. The other non-zero entries are in grey.

		Released strain												
		AGG	AGA	CGG	CGA	CGT	CGC	AAG	AAA	ACG	ACA	ACT	ACC	ATG
Infecting strain	AGG	36 $\pm$ 6	0 $\pm$ 0.3	0 $\pm$ 0.05	0	0	0	0 $\pm$ 0.2	0	0 $\pm$ 0.003	0	0	0	0 $\pm$ 0.003
	AGA	0 $\pm$ 0.2	36 $\pm$ 6	0	0 $\pm$ 0.05	0	0	0	0 $\pm$ 0.16	0	0 $\pm$ 0.0004	0	0	0
	CGG	0 $\pm$ 0.06	0	36 $\pm$ 6	0 $\pm$ 0.2	0 $\pm$ 0.03	0 $\pm$ 0.05	0	0	0	0	0	0	0
	CGA	0	0 $\pm$ 0.02	0 $\pm$ 0.3	36 $\pm$ 6	0 $\pm$ 0.01	0 $\pm$ 0.02	0	0	0	0	0	0	0
	CGT	0	0	0 $\pm$ 0.04	0 $\pm$ 0.01	36 $\pm$ 6	0 $\pm$ 0.3	0	0	0	0	0	0	0
	CGC	0	0	0 $\pm$ 0.03	0 $\pm$ 0.02	0 $\pm$ 0.3	36 $\pm$ 6	0	0	0	0	0	0	0
	AAG	0 $\pm$ 0.5	0	0	0	0	0	29 $\pm$ 6	0 $\pm$ 0.2	0 $\pm$ 0.004	0	0	0	0 $\pm$ 0.003
	AAA	0	0 $\pm$ 0.5	0	0	0	0	0 $\pm$ 0.2	29 $\pm$ 6	0	0 $\pm$ 0.006	0	0	0
	ACG	0 $\pm$ 0.09	0	0	0	0	0	0 $\pm$ 0.08	0	4 $\pm$ 3	0 $\pm$ 0.03	0 $\pm$ 0.02	0 $\pm$ 0.002	0 $\pm$ 0.006
	ACA	0	0 $\pm$ 0.09	0	0	0	0	0	0 $\pm$ 0.02	0 $\pm$ 0.03	4 $\pm$ 3	0 $\pm$ 0.005	0 $\pm$ 0.004	0
	ACT	0	0	0	0	0	0	0	0	0 $\pm$ 0.004	0 $\pm$ 0.006	4 $\pm$ 3	0 $\pm$ 0.03	0
	ACC	0	0	0	0	0	0	0	0	0 $\pm$ 0.01	0 $\pm$ 0.007	0 $\pm$ 0.04	4 $\pm$ 3	0
	ATG	0	0	0	0	0	0	0	0	0	0	0	0	0 $\pm$ 0.04