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|  | Description | Parameter | Value |
| Somatic hypermutation | Probability of a mutation in either CDR or FWR per round of division | p\_mut | 0.20 |
|  | Probability that a mutation lies in the CDR | p\_CDR | 0.85 |
|  | Probability that a CDR mutation is lethal | p\_CDR\_lethal | 0.30 |
|  | Probability that a CDR mutation is silent | p\_CDR\_silent | 0.50 |
|  | Probability that a CDR mutation affects affinity | p\_CDR\_affect | 0.20 (= 1 – p\_CDR\_lethal – p\_CDR\_silent) |
|  | Probability that an affinity-affecting CDR mutation affects the variable region | p\_var (called λ in main text) | varies |
|  | Probability that an affinity-affecting CDR mutation affects the conserved region | p\_cons | varies (= 1 – p\_var) |
|  | Mean of shifted lognormal distribution for effect of CDR mutation on binding energy | mu | 1.9 |
|  | STD of shifted lognormal distribution for effect of CDR mutation on binding energy | sigma | 0.5 |
|  | Shift of shifted lognormal distribution for effect of CDR mutation on binding energy | o | 3.0 |
|  | Probability that a mutation lies in the FWR | (unnamed in code, = 1 – p\_CDR) | 0.15 (= 1 – p\_CDR) |
|  | Probability that a FWR mutation is lethal | p\_FR\_lethal | 0.80 |
|  | Probability that a FWR mutation is silent | p\_FR\_silent | 0 |
|  | Probability that a FWR mutation affects flexibility | p\_FR\_affect | 0.20 (= 1 – p\_FR\_lethal – p\_FR\_silent) |
|  | Mean of normal distribution for change in *Q* due to flexibility-affecting mutation | (unnamed in code) | 0 |
|  | STD of normal distribution for change in *Q* due to flexibility-affecting mutation | sigmaQ | 0.08 |
| Binding | Starting value of *Ec* for new B cells | Ec\_start | varies |
|  | Pseudo inverse temperature | energy\_scale | 0.07 |
|  | Generic binding energy *E0* | E0 | varies |
|  | Antigen concentration | conc | varies |
| GC dynamics | Probability that a B cell is recycled after selection | p\_recycle | 0.70 |
|  | Probability that a B cell exits the germinal center after selection | p\_exit | 0.30 (= 1 – p\_recycle) |
|  | Fraction of B cells that successfully bound antigen that receive T cell help | help\_cutoff | 0.70 |
|  | Number of founder B cells | nb\_founders | 3 |
|  | Maximum number of B cells in GC | GC\_size\_max | 1536 |
|  | Maximum number of GC cycles | nb\_cycle\_max | 250 |
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