

Table 2: Definition of the kinetic constants for the hybrid Theorell-Chance Ping Pong reaction mechanism

Maximum velocity of the forward reaction	$V_{\max}^f = \frac{n_1}{CoAB} = k_3[E]_t$
Maximum velocity of the reverse reaction	$V_{\max}^r = \frac{n_2}{CoPQ} = k_{-2}[E]_t$
Michaelis constant for A (G _t GDP)	$K_m^A = \frac{CoB}{CoAB} = \frac{k_3}{k_1}$
Michaelis constant for B (GTP)	$K_m^B = \frac{CoA}{CoAB} = \frac{k_{-2} + k_3}{k_2}$
Michaelis constant for P (GDP)	$K_m^P = \frac{CoQ}{CoPQ} = \frac{k_{-2}}{k_{-1}}$
Michaelis constant for Q (G _t GTP)	$K_m^Q = \frac{CoP}{CoPQ} = \frac{k_{-2} + k_3}{k_{-3}}$
Dissociation constant of B (GTP)	$K_d^B = \frac{CoQ}{CoBQ} = \frac{k_{-2}}{k_2}$
Dissociation constant of Q (G _t GTP)	$K_d^Q = \frac{CoB}{CoBQ} = \frac{k_3}{k_{-3}}$
Overall equilibrium constant	$K_{eq} = \frac{n_1}{n_2} = \frac{k_1 k_2 k_3}{k_{-1} k_{-2} k_{-3}}$