Parameter	μ^* (3 s.f.) s	Proportionality
$k_{f,5}$	1.74×10^4	(-)
L_s	2230	(-)
$k_{f,4}$	2090	(-)
G_d	1680	(-)
$K_{d,2}$	1390	(+)
$k_{f,12}$	338	(-)
$k_{f,6}$	258	(+)
$k_{f,8}$	198	(+)
R	197	(+)
$k_{f,10}$	187	(+)
$k_{f,9}$	177	(-)
$k_{r,8}$	168	(-)
P	126	(-)
R_{pc}	123	(+)
Ca	110	(-)
$k_{f,11}$	103	(-)
$k_{f,13}$	100	(+)
P_c	91.9	(-)
$K_{d,11}$	90.4	(+)
R_g	69.7	(+)
$k_{f,7}$	50.1	(-)
$k_{r,10}$	41.5	(-)
$K_{d,4}$	35.1	(+)
$k_{f,15}$	33.6	(-)
$k_{r,9}$	32.6	(+)
$k_{f,1}$	31.3	(-)
$k_{f,14}$	29.0	(+)
$K_{m,14}$	16.4	(-)
$PIP2$	8.79	(+)
$K_{m,15}$	6.55	(+)
$k_{f,3}$	3.97	(-)
$k_{f,2}$	3.87	(-)
$k_{f,16}$	2.43	(-)
$k_{r,3}$	3.35×10^{-3}	(+)

Table S6: Model sensitivity analysis results: Time-To-Baseline The full list of significant parameters is given. Parameters are ranked by μ^*. Additionally, a column depicting whether the parameter is proportional (+) or inversely proportional (-) to the objective function is supplied. The measure of proportionality is taken from the sign of μ, hence reveals the effect of the parameter on the objective function direction on average across all tests.