

Supplementary Materials

Study of reversible platelet aggregation model by nonlinear dynamics

Grigori A. Vasilev ¹, Aleksandra A. Filkova ^{2,3} and Anastasia N. Sveshnikova ^{1,2,3,*}

¹ Faculty of Physics, Lomonosov Moscow State University, 1/2 Leninskie gory, Moscow, 119991, Russia; vasilev.ga18@physics.msu.ru (G.A.V.); a.sveshnikova@physics.msu.ru (A.N.S.)

² Center for Theoretical Problems of Physico-Chemical Pharmacology, Russian Academy of Sciences, 30 Srednyaya Kalitnikovskaya str., Moscow, 109029, Russia;

³ National Medical Research Center of Pediatric Hematology, Oncology and Immunology named after Dmitry Rogachev, 1 Samory Mashela St, Moscow, 117198, Russia; aa.filkova@physics.msu.ru (A.A.F.)

* Correspondence: a.sveshnikova@physics.msu.ru (A.N.S.)

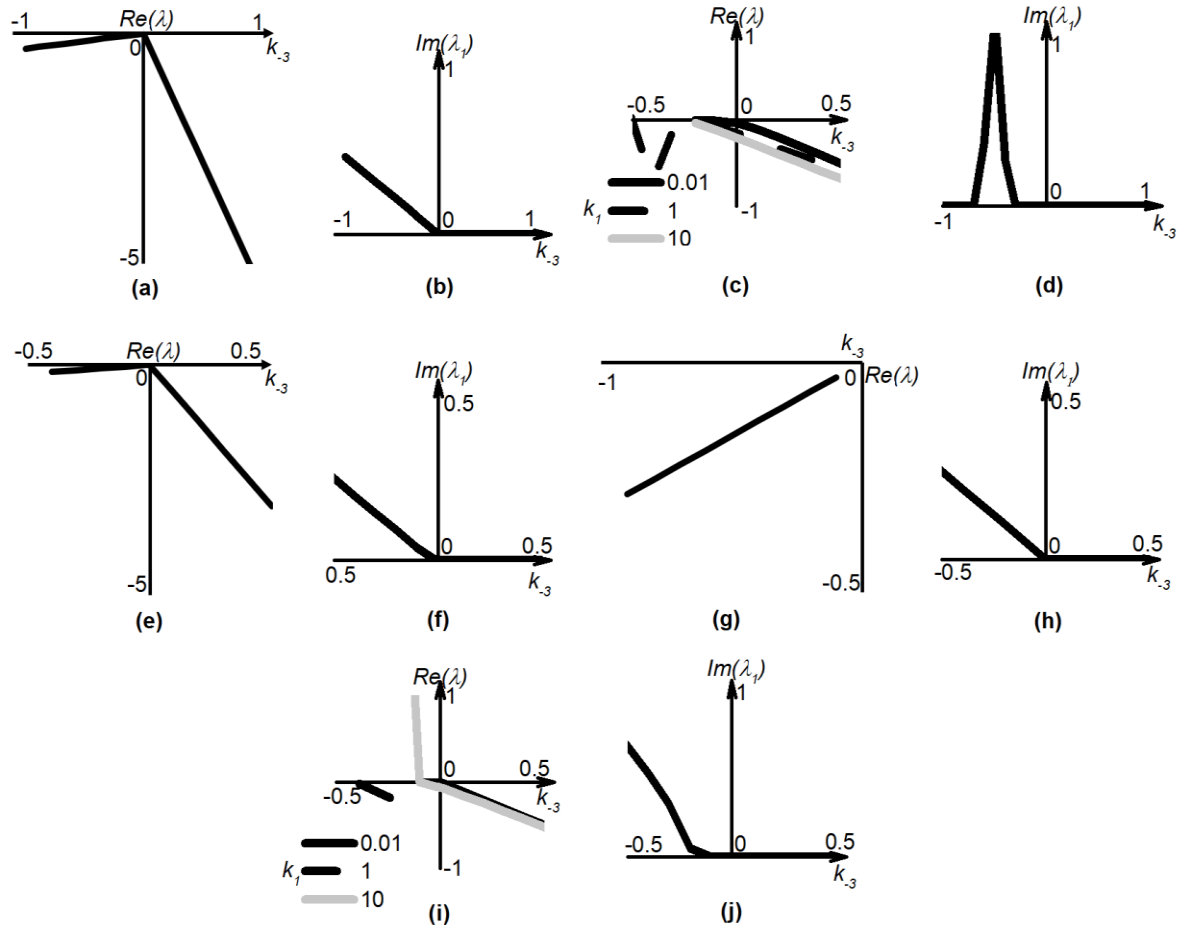


Figure S1. Bifurcation diagrams for eigenvalues of Jacobian (λ). Real and Imaginary parts of the first eigenvalues of Jacobian (λ) for the system (4) as a function of parameter k_{-3} from $\{-1, -0.9, -0.8, \dots, -0.1, -0.01, -0.0001, 0, 0.0001, 0.001, 0.01, 0.1, \dots, 0.9, 1\}$. (a-b) Parameter k_{-3} is varied, other parameters are given in Table 1 for ADP = 5 μM ; (c-d) Parameter k_{-3} is varied, $k_1 = 1$, other parameters are given in Table 1 for ADP = 2.5 μM ; (e-f) Parameter k_{-3} is varied, $k_{-1} = 0.01$, other parameters are given in Table 1 for ADP = 5 μM ; (g-h) Parameter k_{-3} is varied, $k_3 = 0.0001$, other parameters are given in Table 1 for ADP = 5 μM ; (i-j) Parameter k_{-3} is varied, $k_1 = 1$, other parameters are given in Table 1 for ADP = 10 μM .

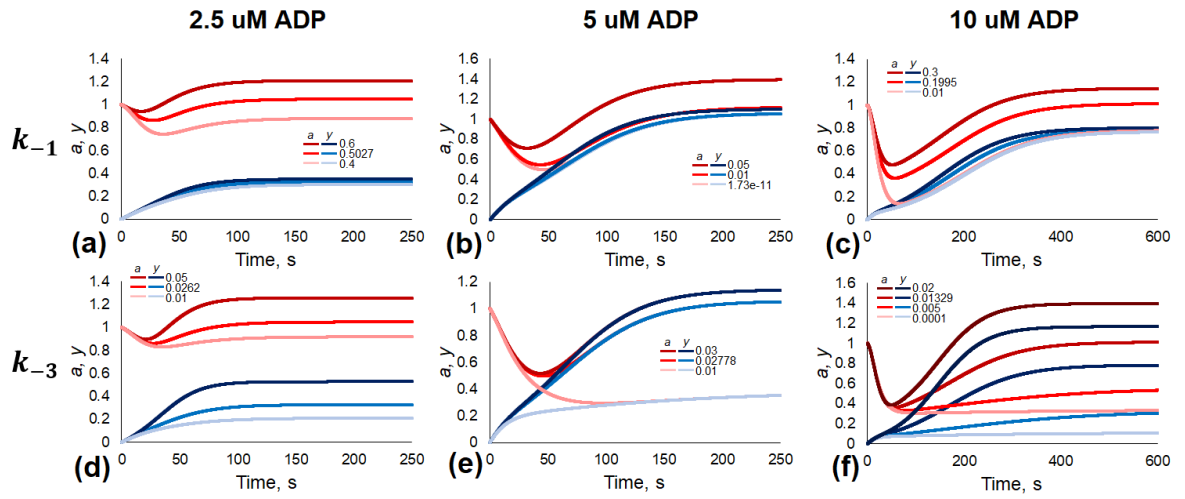


Figure S2. The effects of variations of the parameter values on the model responses. Time courses for $a(t)$ and $y(t)$ for parameter sets given in Table 1 for corresponding ADP concentrations with one parameter being varied for an each plot. For panels (a)-(c) k_{-1} was varied; for (d)-(f) k_{-3} was varied.