



Figure 8.7. Binding diffusion model and its simplification. (A) Diffusion dominant model. Predicted FRAP curves were calculated for the parameters shown in the inset table. (B) Effective diffusion model. Predicted FRAP curves were calculated for the parameters shown in the inset table. (C) Binding-dominant model.

FRAP curves were calculated as follows: (1) $f(t) = \exp\left(-\frac{2\tau_d}{t}\right)\left[I_0\left(\frac{2\tau_d}{t}\right) + I_1\left(\frac{2\tau_d}{t}\right)\right]$ with $\tau_d = 0.0625$; (3)

$$f(t) = 0.5\exp\left(-\frac{2\tau_d}{t}\right)\left[I_0\left(\frac{2\tau_d}{t}\right) + I_1\left(\frac{2\tau_d}{t}\right)\right] + 0.5(1 - e^{-k_{off}t}) \quad \text{with } \tau_d = 0.0625 \text{ } (D = 1, \omega = 0.5) \text{ and } k_{off} =$$

$$0.01; \text{ and (4) } f(t) = 0.5\exp\left(-\frac{2\tau_d}{t}\right)\left[I_0\left(\frac{2\tau_d}{t}\right) + I_1\left(\frac{2\tau_d}{t}\right)\right] + 0.5(1 - e^{-k_{off}t}) \quad \text{with } \tau_d = 0.0625 \text{ and } k_{off} = 1 \text{ are}$$

used. (D) Range of parameter space covered by each of the regimes of the binding-diffusion model as redrawn from [27].