

Reactions 1 and 2:

$$k_{fb1}k_{f1}k_{r2}k_{rb2} = k_{fb2}k_{f2}k_{r1}k_{rb1}$$

$$K_{D2}k_{f1}k_{r2} = K_{D1}k_{f2}k_{r1}$$

$$k_{r2} = \frac{K_{D1}k_{f2}k_{r1}}{K_{D2}k_{f1}}$$

Assuming forward dimerization is constant:

$$k_{r2} = \frac{K_{D1}k_{r1}}{K_{D2}}$$

Reactions 5 and 4:

$$k_{fb1}^2k_{f4}k_{r5}k_{rb2}^2 = k_{fb2}^2k_{f5}k_{r4}k_{rb1}^2$$

$$k_{f4}k_{r5}K_{D2}^2 = k_{f5}k_{r4}K_{D1}^2$$

$$k_{r5} = \frac{k_{f5}k_{r4}K_{D1}^2}{K_{D2}^2k_{f4}}$$

Assuming forward dimerization is constant:

$$k_{r5} = \frac{k_{r4}K_{D1}^2}{K_{D2}^2}$$

Reactions 3 and 4:

$$k_{fb2}k_{rb1}k_{f3}k_{r4} = k_{f4}k_{r3}k_{rb2}k_{fb1}$$

$$K_{D1}k_{f3}k_{r4} = k_{f4}k_{r3}K_{D2}$$

$$\frac{K_{D1}k_{f3}k_{r4}}{k_{f4}K_{D2}} = k_{r3}$$

Assuming forward dimerization is constant:

$$\frac{K_{D1}k_{r4}}{K_{D2}} = k_{r3}$$

Reactions 1 and 4:

$$k_{f1}k_{f6}k_{r4}k_{rb1} = k_{fb1}k_{f4}k_{r6}k_{r1}$$

$$k_{f1}k_{f6}k_{r4}K_{D1} = k_{f4}k_{r6}k_{r1}$$

$$k_{r4} = \frac{k_{f4}k_{r6}k_{r1}}{K_{D1}k_{f1}k_{f6}}$$

Assuming forward dimerization is constant:

$$k_{r4} = \frac{k_{r6}k_{r1}}{K_{D1}k_{f6}}$$

$$k_{f6} = \frac{k_{r6}k_{r1}}{K_{D1}k_{r4}}$$

$$\frac{k_{f6}K_{D1}k_{r4}}{k_{r1}} = k_{r6}$$