**S9 Table. Parameters used in S10-11 Figs.**

**Figure S10 (A):**

**KC =1E-02, *J0*=3 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kp***  (min-1) | ***kyp***  (min-1) | ***J3***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-03 | 1.0E-03 | 9.22E-04 | 9.22E-04 |
| 2 | 1.0E-03 | 2.0E-03 | 9.22E-04 | 1.85E-03 |
| 3 | 1.0E-03 | 1.0E-02 | 9.22E-04 | 9.22E-03 |
| 4 | 1.0E-03 | 2.0E-02 | 9.22E-04 | 1.85E-02 |
| 5 | 1.0E-03 | 1.0E-01 | 9.22E-04 | 9.22E-02 |

**Figure S10 (B):**

**KC =1E-02, *J0*=210 min-1, *J1*=3069 min-1, *J5*=43.838 min-1, *km*=7.0 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kp***  (min-1) | ***kyp***  (min-1) | ***J3***  (min-1) | ***J6***  (min-1) |
| 1 | 7.0E-02 | 1.0E-03 | 6.76-02 | 9.22E-04 |
| 2 | 7.0E-02 | 2.0E-03 | 6.76-02 | 1.85E-03 |
| 3 | 7.0E-02 | 1.0E-02 | 6.76-02 | 9.22E-03 |
| 4 | 7.0E-02 | 2.0E-02 | 6.76-02 | 1.85E-02 |
| 5 | 7.0E-02 | 1.0E-01 | 6.76-02 | 9.22E-02 |

**Figure S10 (C):**

**KC =1E-02, KS=1E-02, *J0*=3 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kym***  (min-1) | ***kyp***  (min-1) | ***J5***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-01 | 1.0E-03 | 43.838 | 9.22E-04 |
| 2 | 7.0E-01 | 7.0E-03 | 306.9 | 6.46E-03 |
| 3 | 7.0 | 7.0E-02 | 3069 | 6.46E-02 |
| 4 | 70.0 | 7.0E-01 | 30690 | 6.46E-01 |

**Figure S10 (D):**

**KC =1E-02, KS=1.0, *J0*=3 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kym***  (min-1) | ***kyp***  (min-1) | ***J5***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-03 | 1.0E-03 | 43.838E-02 | 9.22E-04 |
| 2 | 1.0E-02 | 1.0E-02 | 43.838E-01 | 9.22E-03 |
| 3 | 1.0E-01 | 1.0E-01 | 43.838 | 9.22E-02 |
| 4 | 7.0E-01 | 7.0E-01 | 306.9 | 6.46E-01 |

**Figure S11 (A):**

**KC =1.0, *J0*=3 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kp***  (min-1) | ***kyp***  (min-1) | ***J3***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-01 | 1.0E-03 | 9.66E-02 | 9.22E-04 |
| 2 | 1.0E-01 | 2.0E-03 | 9.66E-02 | 1.85E-03 |
| 3 | 1.0E-01 | 1.0E-02 | 9.66E-02 | 9.22E-03 |
| 4 | 1.0E-01 | 2.0E-02 | 9.66E-02 | 1.85E-02 |
| 5 | 1.0E-01 | 1.0E-01 | 9.66E-02 | 9.22E-02 |

**Figure S11 (B):**

**KC =1.0, *J0*=3.0E-02 min-1, *km*=1.0E-03 min-1, *J1*=43.838E-02 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kp***  (min-1) | ***kyp***  (min-1) | ***J3***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-03 | 1.0E-03 | 9.22E-04 | 9.22E-04 |
| 2 | 1.0E-03 | 2.0E-03 | 9.22E-04 | 1.85E-03 |
| 3 | 1.0E-03 | 1.0E-02 | 9.22E-04 | 9.22E-03 |
| 4 | 1.0E-03 | 2.0E-02 | 9.22E-04 | 1.85E-02 |
| 5 | 1.0E-03 | 1.0E-01 | 9.22E-04 | 9.22E-02 |

**Figure S11 (C):**

**KC =1.0, KS=1.0, *J0*=3E-02 min-1, *km*=1.0E-03 min-1, *kp*=1.0E-03 min-1, *J1*=43.838E-02 min-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model No.** | ***kym***  (min-1) | ***kyp***  (min-1) | ***J5***  (min-1) | ***J6***  (min-1) |
| 1 | 1.0E-03 | 1.0E-03 | 43.838E-02 | 9.22E-04 |
| 2 | 1.0E-02 | 1.0E-02 | 4.3838 | 9.22E-03 |
| 3 | 1.0E-01 | 1.0E-01 | 43.838 | 9.22E-02 |
| 4 | 7.0E-01 | 7.0E-01 | 6.455E-01 | 306.9 |

All other parameters were same as S8 Table.