Table S2. EARM versus xEARM steady state abundances. All abundances are in units of molecules.

| $x$ | Species       | EARM | xEARM | $\Delta$ |
|-----|---------------|------|-------|----------|
| $x_{34}$ | Baxm:Bcl2 | 0    | 3976.0 | 3976.0  |
| $x_{28}$ | Bcl2c:tBid | 0    | 1298.1 | 1298.1  |
| $x_{58}$ | C3Ub       | 0    | 324.54 | 324.54  |
| $x_{23}$ | CPARP       | 0    | 270.45 | 270.45  |
| $x_{26}$ | tBid        | 0    | 77.402 | 77.402  |
| $x_{9}$  | C8          | 0    | 62.547 | 62.547  |
| $x_{1}$  | L           | 0    | 40.997 | 40.997  |
| $x_{50}$ | Apaf:CytoC  | 0    | 38.106 | 38.106  |
| $x_{31}$ | Bax*        | 0    | 24.328 | 24.328  |
| $x_{11}$ | Bar:C8      | 0    | 21.380 | 21.380  |
| $x_{36}$ | Bax2:Bcl2   | 0    | 20.000 | 20.000  |
| $x_{32}$ | Baxm        | 0    | 16.595 | 16.595  |
| $x_{56}$ | Apop:XIAP   | 0    | 8.2980 | 8.2980  |
| $x_{3}$  | L:R         | 0    | 3.2473 | 3.2473  |
| $x_{4}$  | DISC        | 0    | 2.0113 | 2.0113  |
| $x_{17}$ | C6          | 0    | 1.6373 | 1.6373  |
| $x_{30}$ | tBid:Bax    | 0    | 0.7733 | 0.7733  |
| $x_{57}$ | cSmac:XIAP  | 0    | 0.7608 | 0.7608  |
| $x_{20}$ | XIAP:C3     | 0    | 0.6249 | 0.6249  |
| $x_{44}$ | ACytoC      | 0    | 0.3884 | 0.3884  |
| $x_{48}$ | CytoC       | 0    | 0.3811 | 0.3811  |
| $x_{14}$ | C3          | 0    | 0.3156 | 0.3156  |
| $x_{22}$ | C3:PARP     | 0    | 0.3124 | 0.3124  |
| $x_{25}$ | C8:Bid      | 0    | 0.2499 | 0.2499  |

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Table S2 – Continued

| $x$  | Species         | EARM  | xEARM | $\Delta$ |
|------|-----------------|-------|-------|----------|
| $x_6$ | FLIP:DISC       | 0     | 0.1687| 0.1687   |
| $x_{35}$ | Bax2          | 0     | 0.0835| 0.0835   |
| $x_{13}$ | C8:pC3        | 0     | 0.0625| 0.0625   |
| $x_{33}$ | Apop           | 0     | 0.0495| 0.0495   |
| $x_{8}$  | DISC:pC8       | 0     | 0.0402| 0.0402   |
| $x_{51}$ | Apxf*          | 0     | 0.0099| 0.0099   |
| $x_{16}$ | C3:pC6         | 0     | 0.0032| 0.0032   |
| $x_{47}$ | ASmac          | 0     | 0.0028| 0.0028   |
| $x_{55}$ | cSmac          | 0     | 0.0013| 0.0013   |
| $x_{18}$ | C6:pC8         | 0     | 0.0010| 0.0010   |
| $x_{41}$ | AMito          | 0     | 0.0001| 0.0001   |
| $x_{43}$ | AMito:mCytoC   | 0     | 0.0001| 0.0001   |

Independent Species

| $x$  | Species | $2e2$ | $2e2$ | 0   |
|------|---------|-------|-------|-----|
| $x_2$ | R       | 2e2   | 2e2   | 0   |
| $x_5$ | FLIP    | 1e2   | 1e2   | 0   |
| $x_7$ | pC8     | 2e4   | 2e4   | 0   |
| $x_{10}$ | Bar     | 1e3   | 1e3   | 0   |
| $x_{12}$ | pC3     | 1e4   | 1e4   | 0   |
| $x_{15}$ | pC6     | 1e4   | 1e4   | 0   |
| $x_{19}$ | XIAP    | 1e5   | 1e5   | 0   |
| $x_{21}$ | PARP    | 1e6   | 1e6   | 0   |
| $x_{24}$ | Bid     | 4e4   | 4e4   | 0   |
| $x_{27}$ | Bcl2c   | 2e4   | 2e4   | 0   |
| $x_{29}$ | Bax     | 1e5   | 1e5   | 0   |
| $x_{33}$ | Bcl2    | 2e4   | 2e4   | 0   |

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| $x$  | Species     | EARM | xEARM | $\Delta$ |
|------|-------------|------|-------|----------|
| $x_{37}$ | Bax4       | 0    | 0     | 0        |
| $x_{38}$ | Bax4:Bcl2  | 0    | 0     | 0        |
| $x_{39}$ | Mito       | $5 \times 10^5$ | $5 \times 10^5$ | 0        |
| $x_{40}$ | Bax4:M     | 0    | 0     | 0        |
| $x_{42}$ | mCytoC     | $5 \times 10^5$ | $5 \times 10^5$ | 0        |
| $x_{45}$ | mSmac      | $1 \times 10^5$ | $1 \times 10^5$ | 0        |
| $x_{46}$ | AMito:mSmac | 0    | 0     | 0        |
| $x_{49}$ | Apaf       | $1 \times 10^5$ | $1 \times 10^5$ | 0        |
| $x_{52}$ | pC9        | $1 \times 10^5$ | $1 \times 10^5$ | 0        |
| $x_{54}$ | Apop:pC3   | 0    | 0     | 0        |