$$(1)\ \frac{dPCD}{dt} = \begin{cases} 0\ ;\ for\ (TF \le TF_{\min}) \cup (O_2 \le O_{2\ \min}) \\ f_{11} \cdot f_{12}\ ;\ for\ (O_2 \le O_{2\ \min}) \cup (TF_{\min} < TF \le TF_{\max}) \cup (TF > f_{13}) \\ f_{11} \cdot f_{12} + f_{14}\ ;\ for\ (O_2 > O_{2\ \min}) \cup (TF_{\min} < TF \le TF_{\max}) \cup (TF > f_{13}) \\ f_{11}^{*} \cdot f_{12} + f_{14}\ ;\ for\ (O_2 > O_{2\ \min}) \cup (TF > TF_{\max}) \end{cases}$$

$$(2)\ \frac{dSA}{dt} = f_{21} \cdot \left[1 + f_{22} + f_{23}\right] + f_{24} \cdot \left[1 + f_{25} + f_{26} + f_{27}\right] \cdot f_{28}$$

$$(3)\ \frac{dO_2^{\cdot}}{dt} = \begin{cases} 0\ ;\ for\ t \le 1 \\ f_{31} + f_{32} + f_{33} \cdot f_{34} \cdot f_{35} \cdot f_{36}\ ;\ for\ t > 1 \end{cases}$$

$$(4)\ \frac{dH_2O_2}{dt} = f_{34} + f_{35} \cdot f_{41} \qquad (5)\ \frac{dSOD}{dt} = f_{51} + f_{52} + f_{53} \cdot f_{54}$$

$$(6)\ \frac{dRNA_{PCD}}{dt} = f_{61} + f_{62} \cdot f_{63} \qquad (7)\ \frac{dRNA_{SOD}}{dt} = f_{71} + f_{72} \cdot f_{73}$$

$$(8)\ \frac{d\,avr \bullet R}{dt} = f_{81} \cdot f_{82} \qquad (9)\ \frac{d\,TF}{dt} = f_{91} \cdot f_{92}$$