

Supplementary File 1: This table summarises all of the notation used in Appendix 1.

Symbol	Description	Definition
$M$	Melanocyte.	
$I^l$	Loose form iridophore.	
$I^d$	Dense form iridophore.	
$X^b$	Xanthoblast.	
$X$	Xanthophore.	
$\mathbf{X}$	A representation of the xanthophore layer.	$A \Pi_{\mathbf{X}}^L(t) \times \Pi_{\mathbf{X}}^H(t)$ matrix of $X^b$ 's and zeros.
$\mathbf{M}$	A representation of the melanocyte layer.	$A \Pi_{\mathbf{M}}^L(t) \times \Pi_{\mathbf{M}}^H(t)$ matrix of $M$ 's and zeros.
$\mathbf{I}$	A representation of the iridophore layer.	$A \Pi_{\mathbf{I}}^L(t) \times \Pi_{\mathbf{I}}^H(t)$ matrix of $I^l$ 's, $I^d$ 's and zeros.
$\Pi_D^L(t)$	Length of domain type $D \in \{\mathbf{X}, \mathbf{I}, \mathbf{M}\}$ in terms of the number of lattice sites at time $t$ .	
$\Pi_D^H(t)$	Height of domain type $D \in \{\mathbf{X}, \mathbf{I}, \mathbf{M}\}$ in terms of the number of lattice sites at time $t$ .	
$\Delta_D$	Site size of domain type $D \in \{\mathbf{X}, \mathbf{I}, \mathbf{M}\}$ in mm.	$\Delta_D = \begin{cases} 0.04 & \text{for } D = M, \\ 0.02 & \text{for } D = \mathbf{X}, \mathbf{I}. \end{cases}$
$D(i, j, t)$ where $D \in \{\mathbf{X}, \mathbf{M}, \mathbf{I}\}$	Occupancy of row $i$ , column $j$ , of matrix representing domain type $D$ at time $t$ .	$D(i, j, t) = \begin{cases} 0 \text{ or } M, & \text{if } D = M \\ 0, X^b \text{ or } X, & \text{if } D = \mathbf{X} \\ 0, I^l \text{ or } I^d, & \text{if } D = \mathbf{I} \end{cases}$
$t$	Simulated time in minutes.	
$\Omega_H(t)$	Simulated height at time $t$ in mm.	$\Omega_H(t) = \Pi_D^H(t) \times \Delta_D \quad \forall D \in \{\mathbf{X}, \mathbf{I}, \mathbf{M}\}$ .
$\Omega_L(t)$	Simulated length at time $t$ in mm.	$\Omega_L(t) = \Pi_D^L(t) \times \Delta_D \quad \forall D \in \{\mathbf{X}, \mathbf{I}, \mathbf{M}\}$ .
$\Omega_{SL}(t)$	Simulated Standard Length (SL) at time $t$ in mm.	$\Omega_{SL}(t) = \Omega_L(t) + 5.7$ .