The condition $\bar{h} = 0$ determining the swallowtail point $\bar{\varphi}_{2b}$:

$$\bar{h} = -4\Delta(1+b) + (2-(a-b)^2) f_E + [4\Delta(1+b) - (2+(a-b)^2) f_E] \cos 2\bar{\varphi}_{2b} = 0 \qquad (1)$$

where $f_E = 2a^2 + ab - 3a - 3b^2 - 9b - 4$.