

## APPENDIX. Parity-signature products for selected elements of the SO

Possible relations of products of parity signatures of elements of SO1 and SO2 to the parity signatures corresponding to the processes (25a)-(25g) are given below in the same sequence as that in which these processes are listed in the text:

$$\eta_s(\pi^+, p; 2K^+, 2K^0, n) = \eta_s(\pi^0, n; 4K^0, n) \eta_s^2(K^0, p; K^+, n) \eta_s(\pi^+, n; \pi^0, p) , \quad (A1)$$

$$\eta_s(\pi^-, n; 2K^-, K^+, \pi^+, \Omega^-) = \eta_s(\pi^-, p; 4\bar{K}^0, n) \eta_s^2(\bar{K}^0, n; K^-, p) \eta_s(\bar{K}^0, p; \Sigma^0, \pi^+) \eta_s(\bar{K}^0, \Sigma^0; K^+, \Omega^-), \quad (A2)$$

$$\eta_s(K^+, p; 3\pi^+, \pi^0, \Omega^-) = \eta_s(\pi^0, p; 4\bar{K}^0, p) \eta_s(\bar{K}^0, p; \pi^+, \Sigma^0) \eta_s(\bar{K}^0, \Sigma^0; \pi^+, \Xi^-) \eta_s(\bar{K}^0, \Xi^-; \pi^0, \Omega^-) \eta_s(\bar{K}^0, K^+; \pi^0, \pi^+), \quad (A3)$$

$$\eta_s(K^-, p; 2\pi^-, K^0, K^+, A^+) = \eta_s(\pi^0, n; 4K^0, n) \eta_s(K^-, p; \bar{K}^0, n) \eta_s(K^0, \bar{K}^0; \pi^+, \pi^-) \eta_s(K^0, \pi^+; K^+, \pi^0) \eta_s(K^0, n; \pi^-, A^+), \quad (A4)$$

$$\eta_s(\Omega^-, n; \pi^-, 2K^0, A^+, \Xi^-) = \eta_s(\pi^+, n; 4K^0, p) \eta_s(\pi^0, \Omega^-; \bar{K}^0, \Xi^-) \eta_s(K^0, \pi^+; \pi^0, K^+) \eta_s(K^+, p; \pi^+, A^+) \eta_s(K^0, \bar{K}^0; \pi^+, \pi^-), \quad (A5)$$

$$\begin{aligned} \eta_s(A^+, n; \Omega^-, \Xi^0, 2K^+, 2\gamma) = & \eta_s(\pi^+, n; 4\bar{K}^0, p) \eta_s(A^+, \pi^+; K^+, p) \eta_s(K^0, p; K^+, n) \eta_s(\bar{K}^0, p; \pi^+, \Sigma^0) \\ & \eta_s(\bar{K}^0, \Sigma^0; \pi^+, \Xi^-) \eta_s(\bar{K}^0, \Xi^-; \pi^0, \Omega^-) \eta_s(\bar{K}^0, n; \Xi^0, K^0) \eta_s(\pi^0; 2\gamma), \end{aligned} \quad (A6)$$

$$\begin{aligned} \eta_s(K^+, n; 2\pi^+, 2K^-, \Sigma^+, \gamma) = & \eta_s(\pi^0, p; 4\bar{K}^0, p) \eta_s(K^+, n; K^0, p) \eta_s(K^0, \bar{K}^0; \pi^+, \pi^-) \eta_s(\bar{K}^0, \pi^-; K^-, \pi^0) \\ & \eta_s(p, \Lambda^0; n, \Sigma^+) \eta_s(\bar{K}^0, \Sigma^-; K^-, \Sigma^0) \eta_s(\bar{K}^0, n; \pi^+, \Sigma^-) \eta_s(\Sigma^0, \Lambda^0, \gamma). \end{aligned} \quad (A7)$$