

$$\begin{aligned}
L_{cyc}(G_{s2o}, G_{o2s}) = & \lambda_{s2o} \mathbb{E}_{sar \sim p_{data}} (||G_{o2s}(G_{s2o}(sar)) - sar||_1) \\
& + \lambda_{o2s} \mathbb{E}_{opt \sim p_{data}} (||G_{s2o}(G_{o2s}(opt)) - opt||_1)
\end{aligned}$$