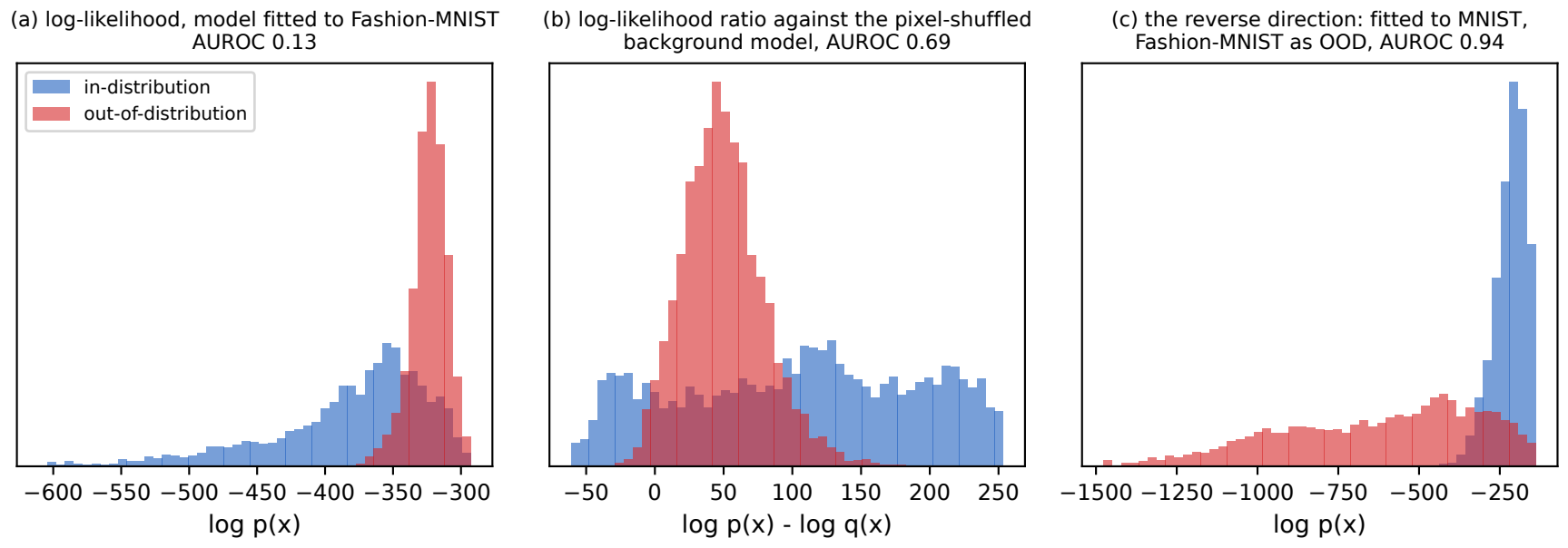

(a) log-likelihood, model fitted to Fashion-MNIST
AUROC 0.13
in-distribution
out-of-distribution
−600 −550 −500 −450 −400 −350 −300
log p(x)
(b) log-likelihood ratio against the pixel-shuffled
background model, AUROC 0.69
−50 0 50 100 150 200 250
log p(x) - log q(x)
(c) the reverse direction: fitted to MNIST,
Fashion-MNIST as OOD, AUROC 0.94
−1500 −1250 −1000 −750 −500 −250
log p(x)