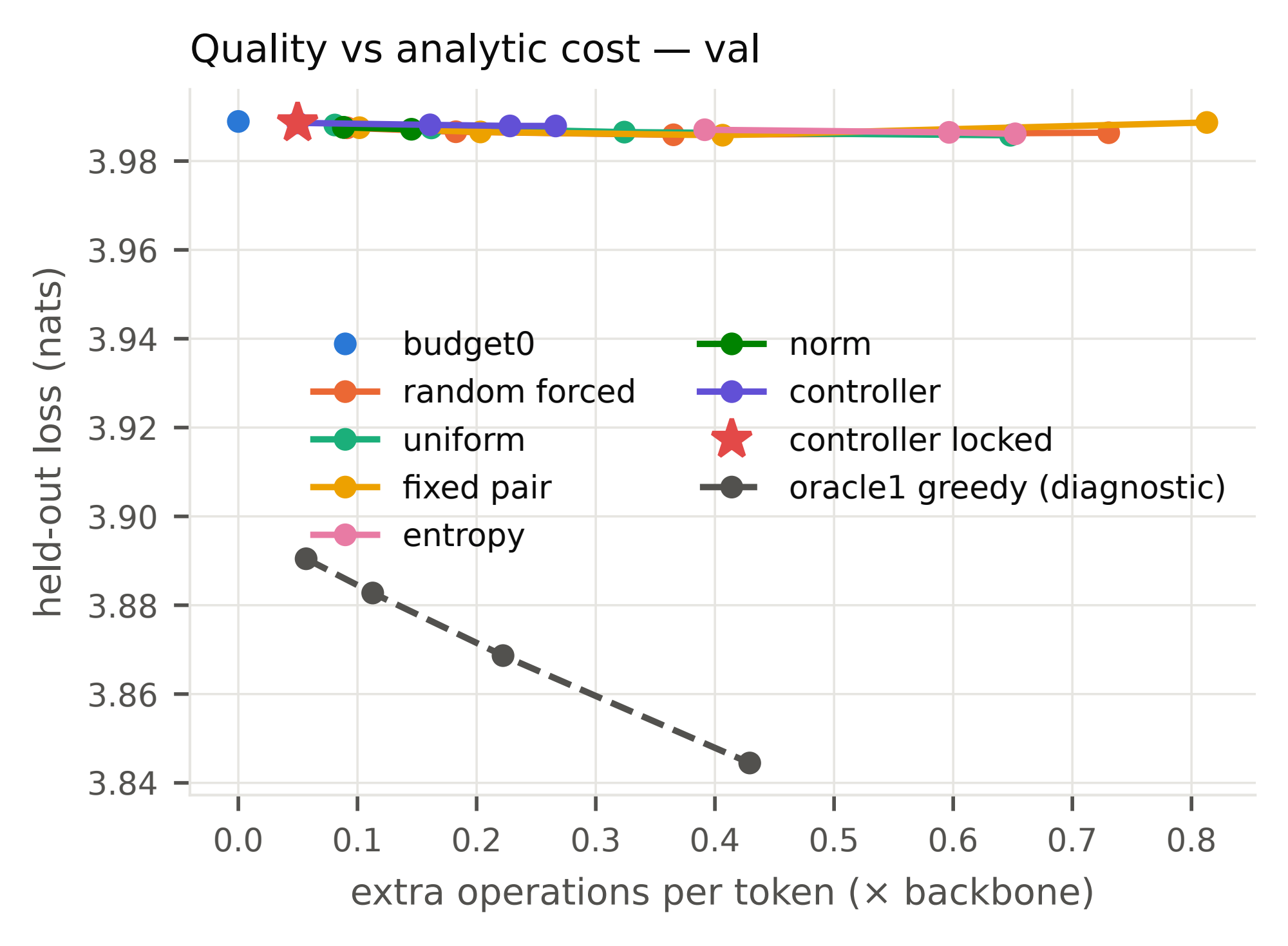

Quality vs analytic cost — val
held-out loss (nats)
3.98
3.96
3.94
3.92
3.90
3.88
3.86
3.84
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
extra operations per token (× backbone)
budget0
random forced
uniform
fixed pair
entropy
norm
controller
controller locked
oracle1 greedy (diagnostic)