Cumulant-Based Polytree Recovery: Performance vs Graph Size F1 Score vs Graph Size Precision vs Recall 1.0 1.0 0.8 0.8 0.6 F1 Score Score 0.6 0.4 0.4 0.2 0.2 Precision Recall 0.0 0.0 20 40 80 100 120 140 20 40 60 80 100 120 60 140 Graph Size (n) Graph Size (n) Performance Decay Rate Performance vs Latent Complexity Observed F1 1.00 Exp fit (decay=0.0032) 10^{0} 0.95 0.90 -F1 Score (log scale) 8×10^{-1} 6×10^{-1} 0.85 F1 Score 0.80 0.75 7×10^{-1} 0.70 0.65

10

5

15

20

25

Average Number of Latent Variables

30

40

35

20

40

80

Graph Size (n)

60

100

120

140