(A) Pearson correlation predicted vs. observed change over baseline Adamson Data Replogle RPE1 Data linear pretrained linear pretrained 1.0 1.00 -0.8 training 0.75 Ridge penalty Pearson-delta 8 0.1 8 0.0 9 0.0 Dearson-delta 0.25 0.0.1 0.75 0.1 - 0.3 1.8 0.6 0.50 10 0.25 0.4 10 30 100 300 10 30 100 300 10 30 100 300 ż 30 100 300 No. PCA dimensions No. PCA dimensions (B) Distance predicted vs. observed Adamson Data Replogle RPE1 Data linear pretrained linear pretrained 25 20 100 75 Ridge penalty 15 50 10 0 25 5 Distance Distance 0.1 25 20 0.3 100 75 1.8 15 50 10 10 25 Õ 10 30 100 300 10 30 100 300 10 30 100 300 10 30 100 300 ż ż 3 ż No. PCA dimensions No. PCA dimensions (C) Pretraining matching error vs prediction accuracy

