



Figure 3: Matching Index Model: (A) observed (black) and synthetic networks generated at different points in parameter space. (B) Energy landscape showing the points at which the example synthetic networks were generated. (C) Distribution of η and γ parameters of best-fitting synthetic networks aggregated across all participants. (D) Tradeoff between η and γ . Each point represents the mean parameter values for an individual participant. Participants with larger values of η tend to have the smallest magnitude γ and vice versa. (E) KS statistic landscapes for degree (orange), clustering (green), betweenness (yellow), and edge length (purple) for observed connectome and best-fitting synthetic networks for a single participant. (F) Cumulative distributions of degree (orange), clustering (green), betweenness (yellow), and edge length (purple) for observed connectome (darker line) and best-fitting synthetic networks (lighter lines) for a representative participant.