

## Description of Additional Supplementary Files:

**Supplementary Dataset 1:** provides the full list of hctsa time-series features, and their corresponding PCA loadings and p-values for the PC1 map obtained for the Schaefer100 atlas (Figure 3).

**Supplementary Dataset 2:** provides the full list of hctsa time-series features and their corresponding PLS loadings for the first latent variable obtained for the Schaefer-100 atlas (Figure 4).

**Supplementary Dataset 3:** provides the full list of hctsa time-series features, and their corresponding PCA loadings and p-values for the PC1 map obtained for the Schaefer400 atlas (Supplementary Figure 10).

**Supplementary Dataset 4:** provides the full list of hctsa time-series features and their corresponding PLS loadings for the first latent variable obtained for the Schaefer-400 atlas (Supplementary Figure 11).

**Supplementary Dataset 5:** provides the full list of hctsa time-series features, their Spearman correlation coefficients with T1w/T2w and their corresponding p-values (Supplementary Figure 7).

**Supplementary Dataset 6:** provides the full list of hctsa time-series features, their Spearman correlation coefficients with gene expression PC1 and their corresponding p-values (Supplementary Figure 7).