

## Electronic Supplementary Information

### ESI figure legends

**Figure S1.** Protein-wise charge-hydrophobicity plots of mature proteins. (A-D) The same plots as in Fig. 1 except that the signal and pro sequences of proteins are excluded.

**Figure S2.** Protein-wise absolute charge-hydrophobicity plots. (A) The protein-wise absolute charge-hydrophobicity plot of mitochondrial proteins in *S. cerevisiae*. (B) The average protein-wise absolute charge-hydrophobicity plot of proteins in *S. cerevisiae*. (C) The average protein-wise absolute charge-hydrophobicity plot of proteins in *H. sapiens*. (D) The average protein-wise absolute charge-hydrophobicity plot of proteins in seven eukaryotes.

**Figure S3.** Quantification of the resolution in average charge-hydrophobicity plots. (A) The average protein-wise charge-hydrophobicity plot of proteins in *S. cerevisiae* together with a grey rectangle corresponding to the value range. (B) The average distance between the average plot of mitochondrial proteins and that of plasma membrane proteins is determined in the direction from the IDR average to the SD average. The average distances for all localization pairs are calculated, averaged, and are normalized by the square root of the area of the value range. The larger the normalized average distance is, the higher the resolution.

Fig. S1

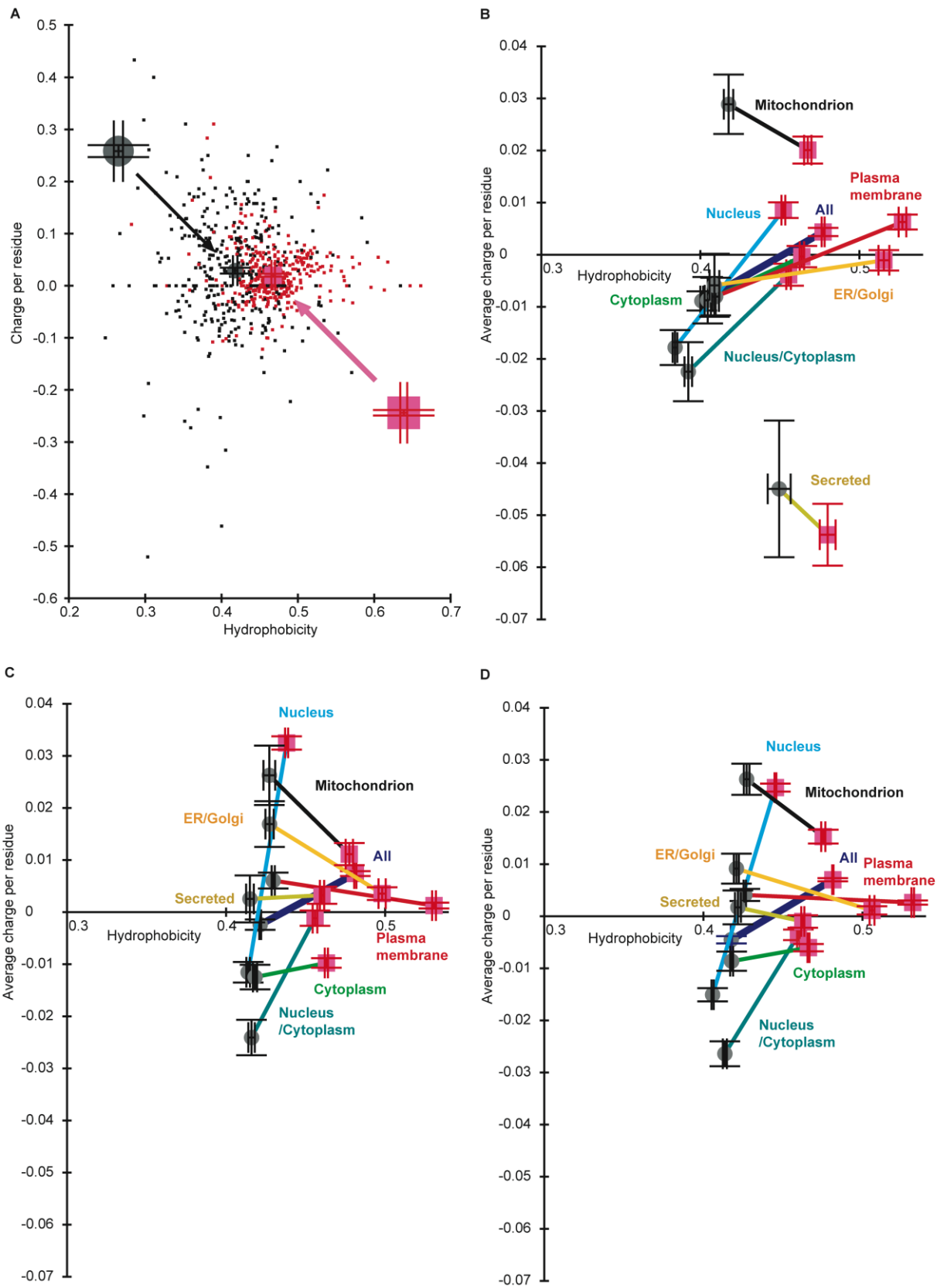


Fig. S2.

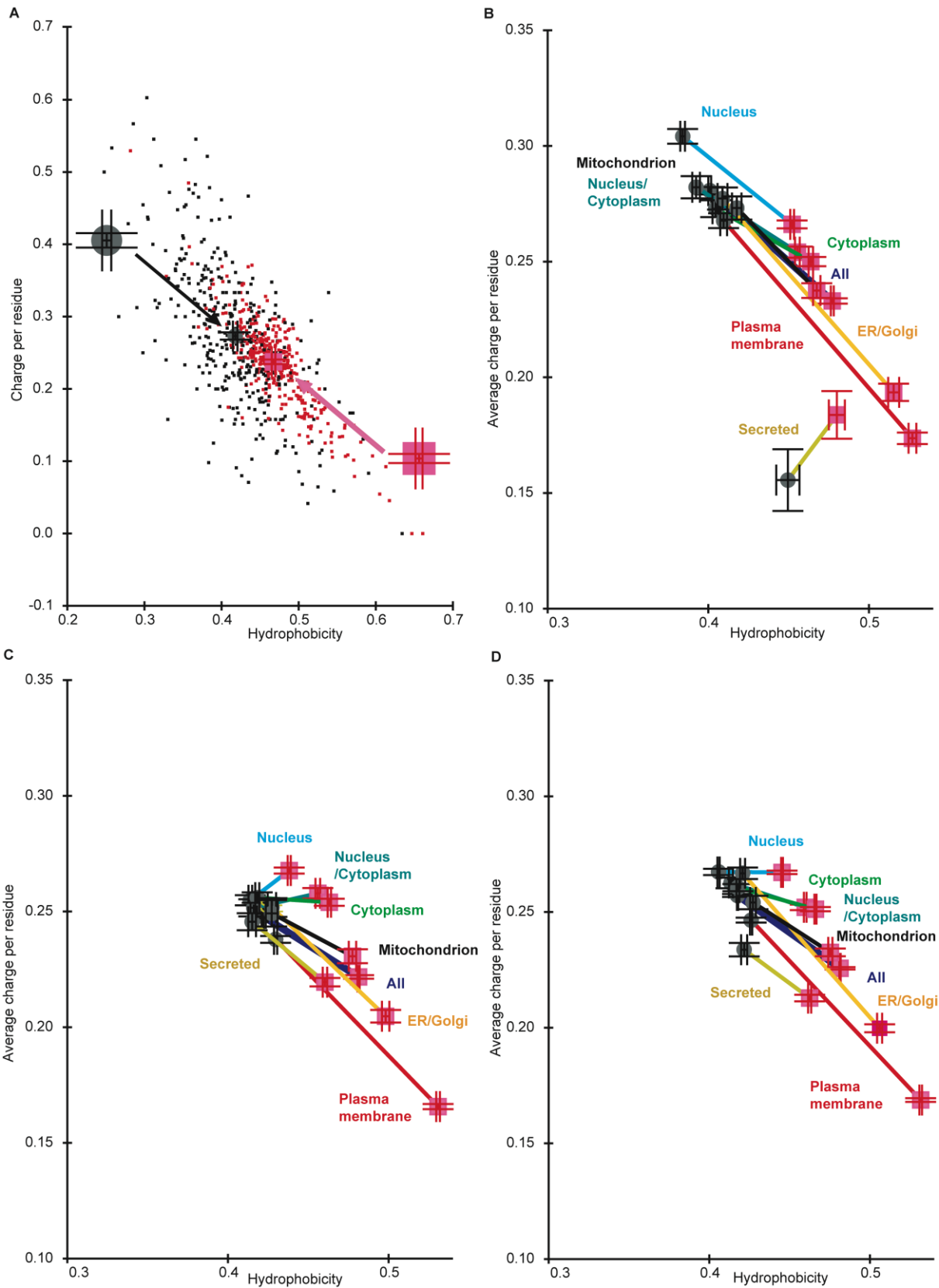


Fig. S3.

