Supplemental Figure

Supplemental Figure 1. Regions of the structural cortical networks in controls (**A**) and AD groups (**B**). Regions were ranked according to their normalized betweenness, b_i. Note that the b_i values were obtained from the brain networks with a sparsity of 13%. NC, normal controls; AD, Alzheimer's disease. For the abbreviation of regions, see Supplemental Table 1.

Supplemental Figure 2. The relation between the betweenness of regions of left and right hemispheres. There was significant correlation in normal controls (Pearson's r = 0.50, P = 0.007) but not in AD patients (Pearson's r = 0.13, P = 0.52). To test whether the correlation of normal control was significantly larger than that of the patient group, the two correlation coefficients were transformed into z values using Fisher's r-to-z transform to improve the normality. A Z statistic was further used to compare the two transformed z values to determine the significance of the difference (Cohen and Cohen, 1983). This analysis revealed that there was significantly decreased trend in the correlation coefficient of the AD patients as compared to controls (Z-score = 1.47; P = 0.07). Black and red points represent the normalized betweenness b_i of the regions of controls and AD group, respectively. For the abbreviation of regions, see Supplemental Table 1. For details of statistical properties of all regions, see Supplemental Table 2 and 3. NC, normal controls; AD, Alzheimer's disease.

Supplemental Figure 3. A vertex-by-vertex statistical parameters (t-statistics) maps (controls vs. AD). The AD patients showed significantly focal cortical thinning in multiple brain regions,

involving bilaterally lateral temporal and parietal cortex (e.g. supramarginal gyrus, superior temporal gyrus, middle temporal gyrus and angular gyrus), medial prefrontal cortex and medial parietal cortex regions. There were no significant increases in cortical thickness found in the AD patients compared with the controls. The results were obtained by a vertex-by-vertex linear regression analysis in which cortical thickness in every vertex was regressed against diagnosis (controls vs. AD). This analysis also included age and gender as covariates. A false discovery rate procedure was used to correct multiple comparisons at a *q* value of 0.05 (Genovese et al., 2002). Statistical parameter maps were visualized through projection onto an average stereotaxic cortical surface. t-score bar is shown on the right. It is noted that the results based on the vertex-by-vertex analysis are compatible with those based on a ROI-based analysis (Supplemental Table 4). The AD-related pattern of focal cortical thinning shown here is also consistent with several previous cortical thickness studies in AD (Lerch et al., 2005; Singh et al., 2006; Du et al., 2007).