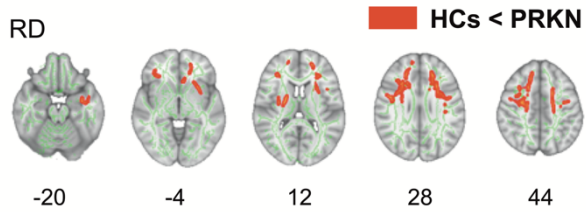# Supplementary Material

Diffusion MRI Captures White Matter Microstructure Alterations in *PRKN* Disease
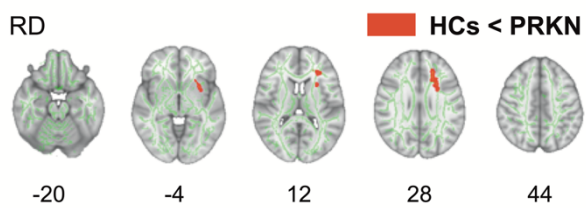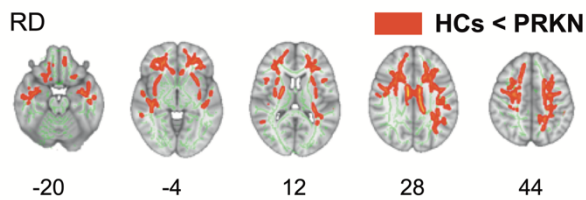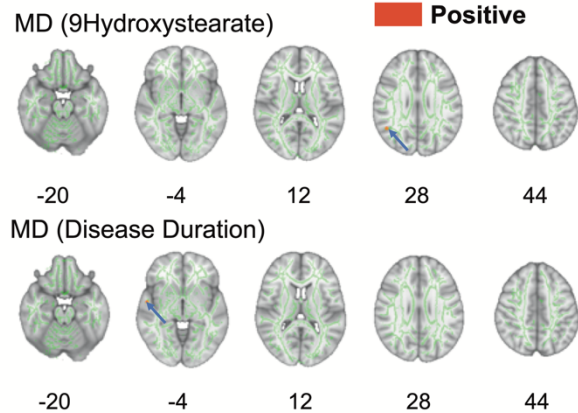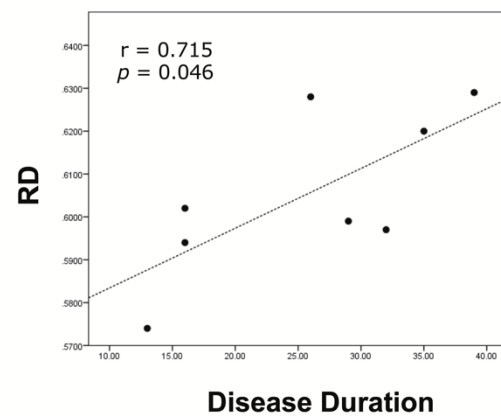
Supplementary Figure 1. TBSS with Randomize and PALM analysis. A) TBSS with PALM demonstrated a significant increase in RD in the *PRKN* patients compared with HCs ($pFWE<0.05$). B) When data from the patient considered an outlier were excluded, TBSS with PALM analysis revealed significant alterations in RD in the *PRKN* patients compared with HCs ($pFWE<0.05$). C) When data from the patient considered an outlier were excluded, TBSS revealed significant alterations in RD in the *PRKN* patients compared with HCs ($pFWE<0.05$). D) The white matter MD alterations were slightly but significantly correlated with disease duration and serum levels of 9-hydroxystearate in TBSS (blue arrows). E) RD alterations in the significantly increased RD areas (C) in patients with *PRKN* excluding the outlier compared with HCs were significantly correlated with disease duration. HCs, healthy controls; pFWE, family-wise error-corrected p-value; PALM, permutation analysis of linear models; *PRKN*, parkin mutations; RD, radial diffusivity; TBSS, tract-based spatial statistics analysis