

Supplementary data

Oral [60]fullerene reduces neuroinflammation to alleviate Parkinson's disease via regulating gut microbiome

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Table S1. The primers for Q-PCR.

Primer	Primer sequence (5'-->3')	Products
MouseACTB-F	TTCTTGGGTATGGAATCCTGTG	203bp
MouseACTB-R	GGAGGAGCAATGATCTTGATCTT	
JNK-f1	TCCCCGATGTGCTTTTCC	146bp
JNK-r1	GACGTTGATGTATGGGTGCTG	
ASK1-F1	GTTAGGGAAGGGCACTTATGG	249bp
ASK1-R1	GAACGAAGGAGAGCAGAGAGG	
Bax-F2	CAGGATGCGTCCACCAAG	157bp
Bax-R2	TGCCATCAGCAAACATGTCA	
Caspase-3-F1	GGAACCCTTGTTTTGGACCT	181bp
Caspase-3-R1	CACACGGTTTTCTCTCACATA	
TNF-α-F1	AAGAGGCACTCCCCCAAAA	127bp
TNF-α-R1	ATCACCCCGAAGTTCAGTAGAC	
IL-1β-F2	ATGATAACCTGCTGGTGTGTGA	257bp
IL-1β-R2	GGGTGTGCCGTCTTTCATTAC	
Bcl-2-F3	CTGGTTGGGATTCCTACGG	234bp
Bcl-2-R3	GGACGGCATGATCTTCTGTC	
Occludin-F	CAGTGTCTGTAAATCCCAGGATG	158bp
Occludin-R	ATGTACTGCCATGTCTGAAAGGT	
Claudin1-F	TATGACCCCTTGACCCCAT	132bp
Claudin1-R	AGAGGTTGTTTTCCGGGGAC	

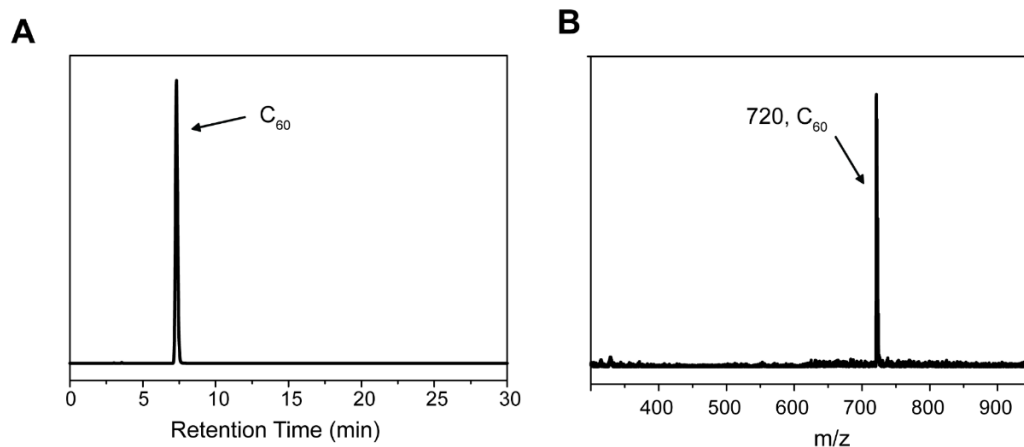


Figure S1. The characterization of C₆₀. (A) Chromatogram of the pristine C₆₀ on a Buckyprep column (chromatographic column 4.6 × 250 mm; flow rate 1 mL/min; toluene as eluent; wavelength 310 nm). (B) MALDI-TOF-MS spectrum (positive mode) of the pristine C₆₀.

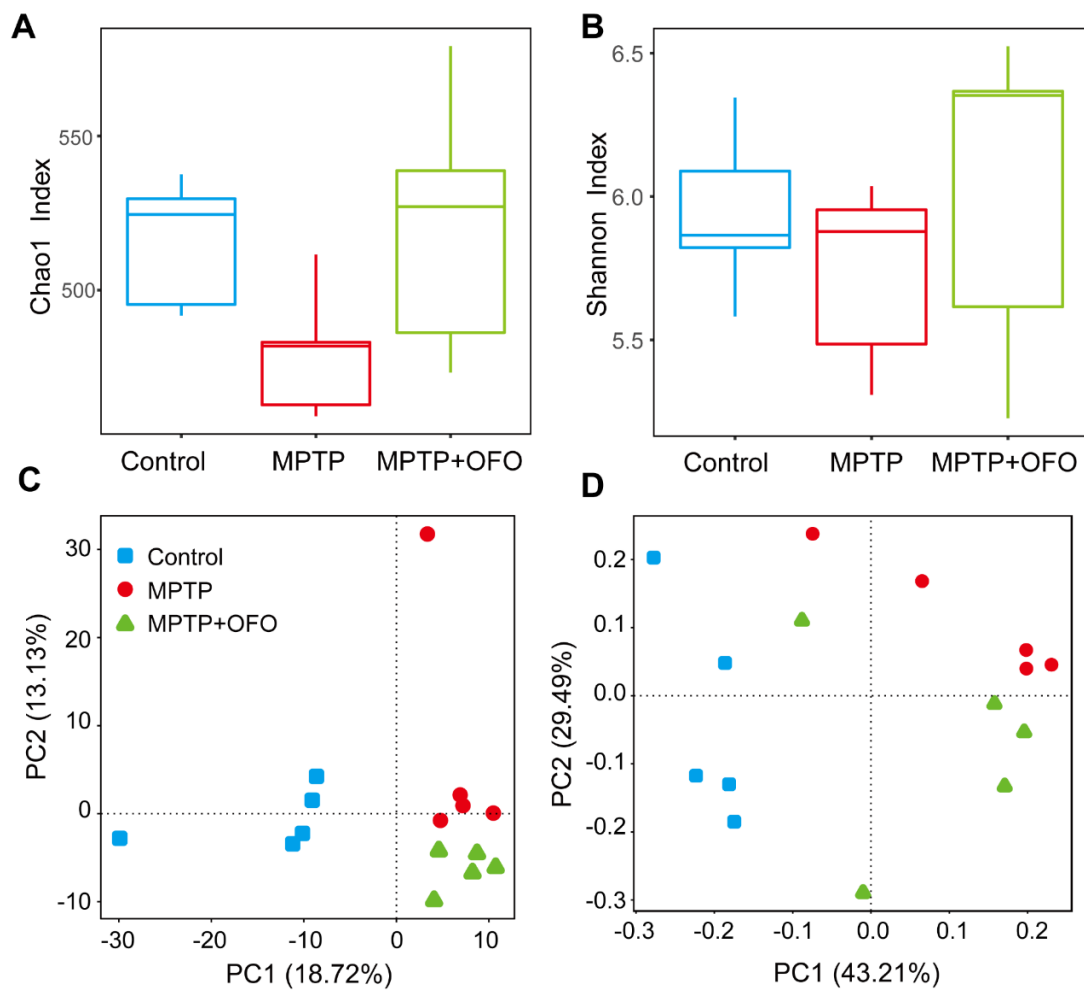


Figure S2. Effects of OFO on gut microbiota of MPTP-induced PD mice. (A) The Chao1 index. (B) The Shannon index (C-D) Analysis of the variances among the microbiol communities from the mice in the control, MPTP and treatment groups by the average relative abundance using principal component analysis (PCA, C) and principal coordinates analysis (PcoA, D).

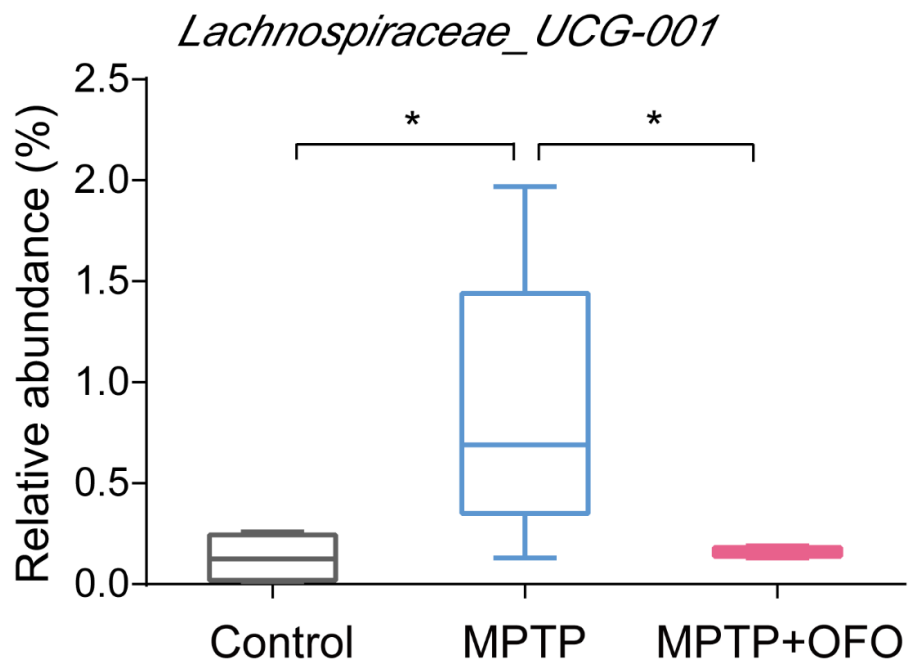


Figure S3. Relative abundance of *Lachnospiraceae_UCG-001* at genus level. *p < 0.05 and. Data were analyzed using one-way ANOVA with LSD test by SPSS.

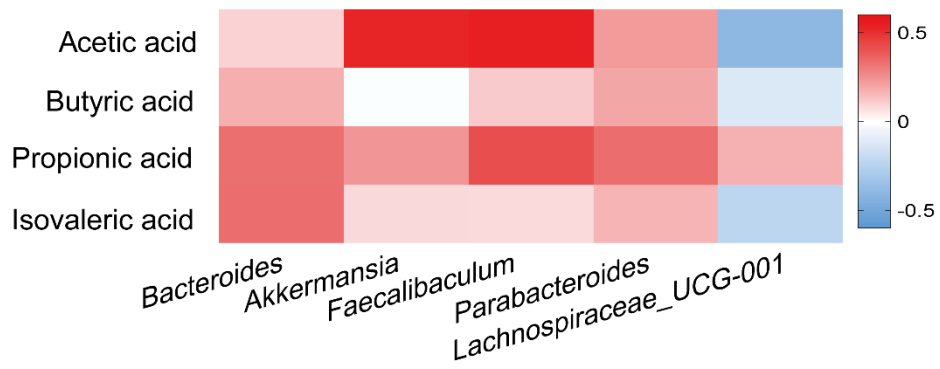


Figure S4. The heatmap of correlations between SCFAs and bacterial abundance at genus level.

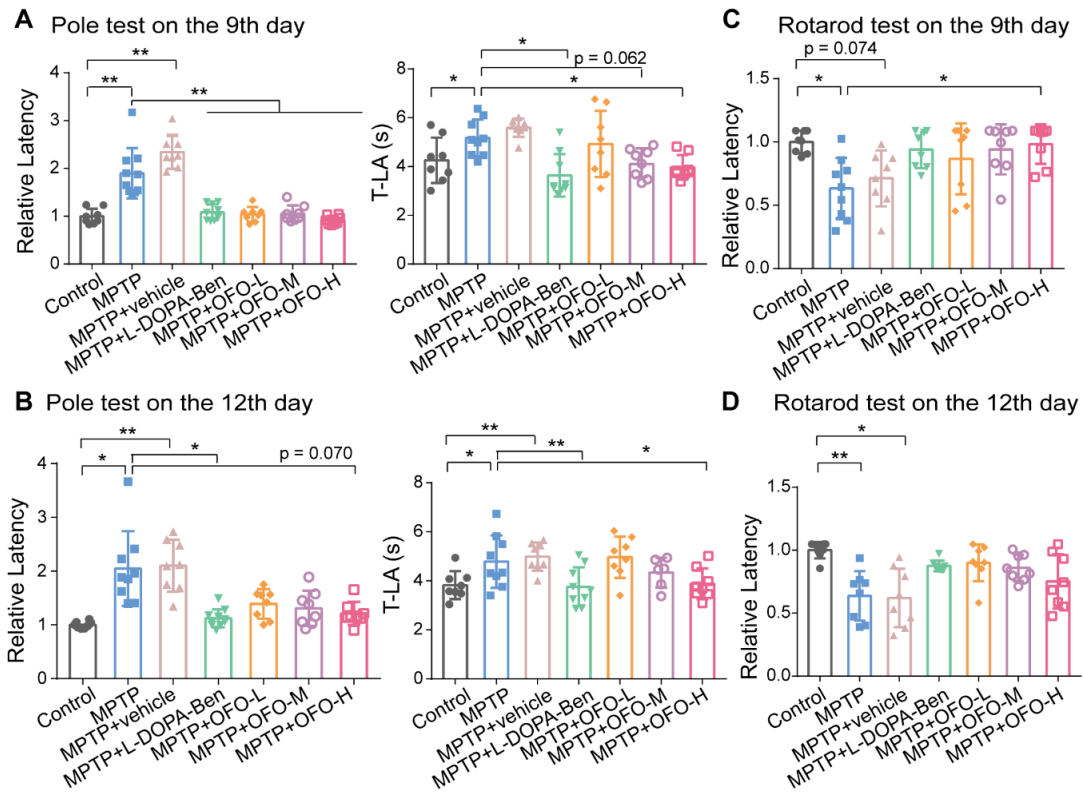


Figure S5. Effects of OFO on MPTP-induced motor deficits. The preventive effects of OFO on MPTP-induced behavioral injury, as assessed by the pole test and rotarod test on the 9th (A, C) and 12th days (B, D). Data are the mean \pm S.D. $n = 3-10$ in each group. Data were analyzed using one-way ANOVA with LSD test or Games-Howell test by SPSS.

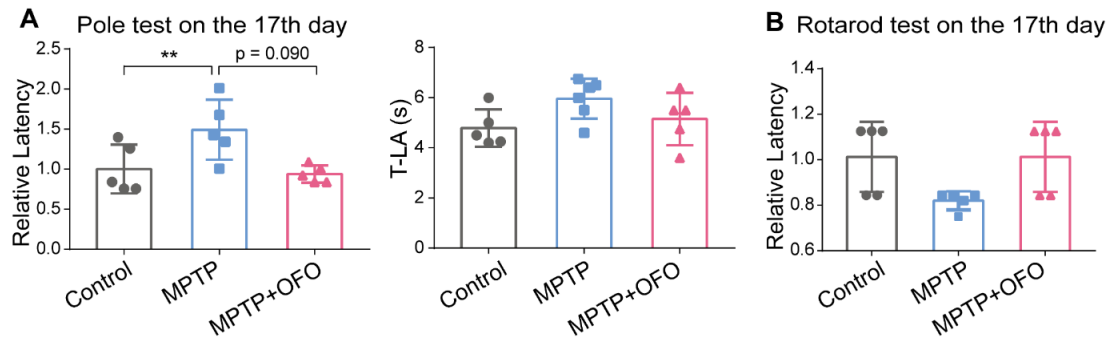


Figure S6. Effects of OFO on MPTP-induced motor deficits. The treatment of MPTP-induced behavioral injury by OFO, as assessed by the pole test (A) and rotarod test (B) on the 17th days. Data are the mean \pm S.D. $n = 6-10$ in each group. Data were analyzed using one-way ANOVA with LSD test or Games-Howell test by SPSS.

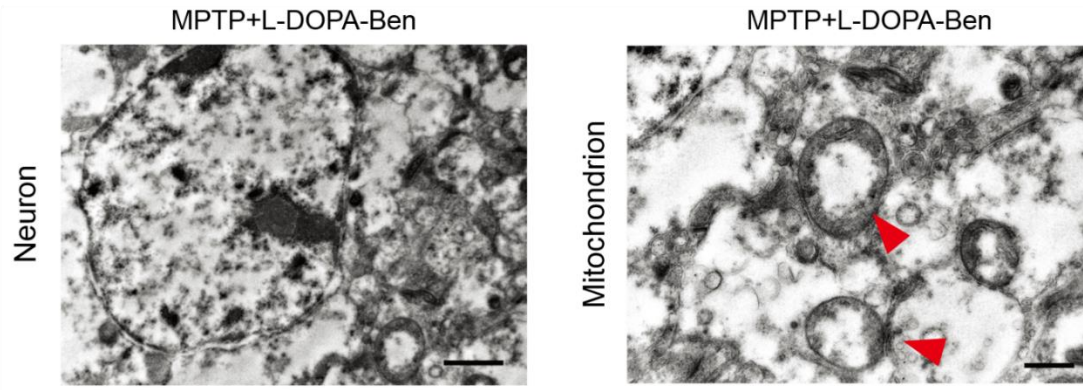


Figure S7. The ultrastructure of dopaminergic neurons and mitochondrion in the MPTP+L-DOPA-Ben group by TEM. Scale bar: 1 μm (left) and 400 nm (right). The red arrows refer to the mitochondrion.

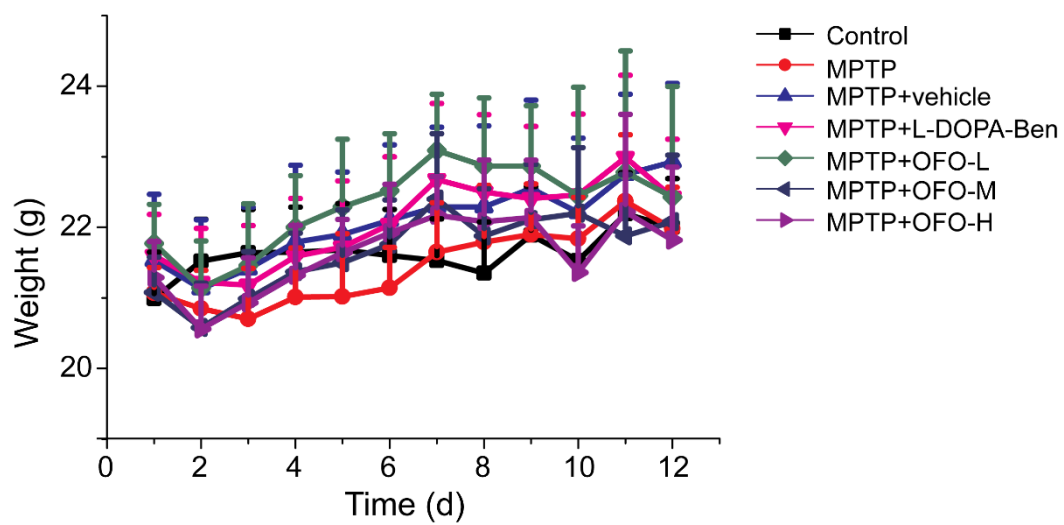


Figure S8. The weight changes during the 12-day prevention of PD.