**Supporting Information**

**Polydopamine nanoparticles** **attenuate retina ganglion cell degeneration and restore visual function in optic nerve injury**

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**Fig. S1.** Scavenging efficiencies of (A) superoxide anion (O2•−), (B) hydroxyl radicals (•OH), and (C) DPPH radical with different concentrations of PDA nanoparticles.



**Fig. S2.** Quantitative analysis (ANOVA) of ROS levels in Raw 264.7 treated with LPS (1 μg/mL) and PDA (200 μg/mL) for 12h. \*\*\**P* < 0.001. n = 5. Data are presented as the mean ± SD.



**Fig. S3.** DAPI staining of the retinal cross section, dashed lines indicate the region for analysis of central and peripheral retinal thickness. Bar = 200 μm.



**Fig. S4.** Representative images of nissl stained retinal sections in mice treated with PDA. Bar = 50 μm.



**Fig. S5.** Representative imageS and quantitative analysis (ANOVA) of microglia (IBA1-positive) densities in retinal sections. Bar = 50 μm. \*\*\**P* < 0.001. n = 8. Data are presented as the mean ± SD.



**Fig. S6.** Representative image of nissl stained retinal sections in mice treated with PDA, Br and Br@PDA. Bar = 50 μm.