

**Table S1** Brain network graph measures in NAION patients and HCs

Graph measure	NAION (n=25)	HCs (n=24)	t value	P value
Gamma	0.548±0.089	0.613±0.102	-2.380	0.021*
Lambda	0.304±0.009	0.307±0.011	-0.872	0.388
Sigma	0.479±0.079	0.530±0.091	-2.076	0.043*
Eg	0.131±0.007	0.133±0.005	-0.902	0.372
Eloc	0.188±0.007	0.192±0.006	-2.233	0.030*
LCC	130.158±17.511	121.096±11.686	2.122	0.039*

Data are presented as the mean ± standard deviation. The AUC values over the full range of sparsity thresholds were calculated for network parameters. \* indicates statistically significant group differences  $P < 0.05$ . NAION, non-arteritic anterior ischemic optic neuropathy; HC, healthy control; gamma, normalized clustering coefficient; lambda, normalized characteristic path length; sigma, small-worldness; Eg, global efficiency; Eloc, local efficiency; LCC, largest connected component.

**Table S2** Altered nodal centralities of brain regions in NAION patients compared to HCs

Brain region	P values			
	Nodal degree	Nodal betweenness	Nodal efficiency	Nodal local efficiency
NAION > HCs				
PreCG.L	0.011*	0.058	0.035*	0.573
MFG.R	0.010*	0.260	0.027*	0.299
DCG.R	0.072	0.016*	0.065	0.135
MOG.L	0.456	0.088	0.657	0.009*
PCUN.L	0.047*	0.703	0.304	0.241
SMA.R	0.053	0.270	0.020*	0.940
THA.L	0.204	0.868	0.099	0.042*
HCs > NAION				
IFGoperc.L	0.001*	0.002*	0.001*	0.947
ORBinf.L	0.017*	0.189	0.017*	0.493
AMYG.R	0.043*	0.390	0.005*	0.049*
INS.R	0.123	0.199	0.099	0.014*
SMG.L	0.033*	0.441	0.057	0.636
ACG.R	0.790	0.164	0.622	0.011*

Regions were considered abnormal if they showed significant between-group differences (FDR-corrected  $q < 0.05$ ) in at least one of the four nodal centralities (shown in \*). NAION, non-arteritic anterior ischemic optic neuropathy; HC, healthy control; PreCG, precentral gyrus; MFG, middle frontal gyrus; DCG, median cingulate and paracingulate gyri; MOG, middle occipital gyrus; PCUN, precuneus; SMA, supplementary motor area; THA, thalamus; IFGoperc, inferior frontal gyrus, opercular part; ORBinf, inferior frontal gyrus, orbital part; AMYG, amygdala; INS, insula; SMG, supramarginal gyrus; ACG, anterior cingulate and paracingulate gyri; R, right; L, left.