

Supporting Information

Phosphonic acid grafted polybenzimidazoles containing pyridine for stable high-temperature proton exchange membrane fuel cells

Jie Li¹, Weiyu Zhang¹, Wenwen Wang¹, Jiaqi Ji, Hong Li, Yiming Sun, Keda Li,
Tianqi Yang, Weiyi Jin, Yi Tang, Yongqing Zhao*, Wei Li, Chenliang Gong*

State Key Laboratory of Applied Organic Chemistry, Key Laboratory of Special
Function Materials and Structure Design of Ministry of Education, College of
Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, P. R.
China

* Corresponding authors: gongchl@lzu.edu.cn (Chenliang Gong),
yqzhao@lzu.edu.cn (Yongqing Zhao)

¹ These authors contributed equally to this work

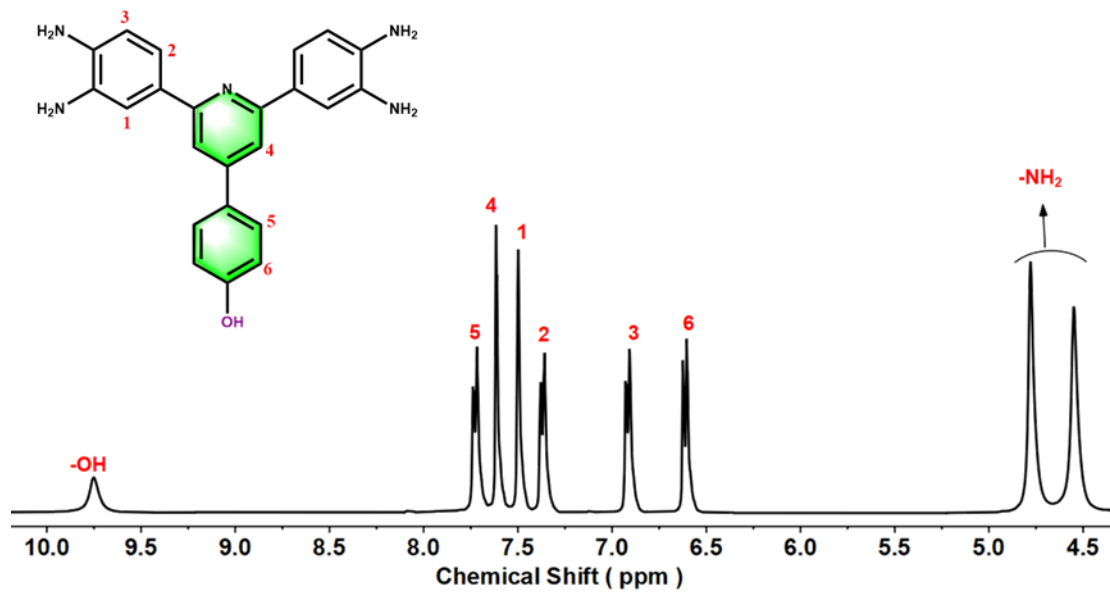


Fig. S1. ^1H NMR spectra of PyTAB-OH.

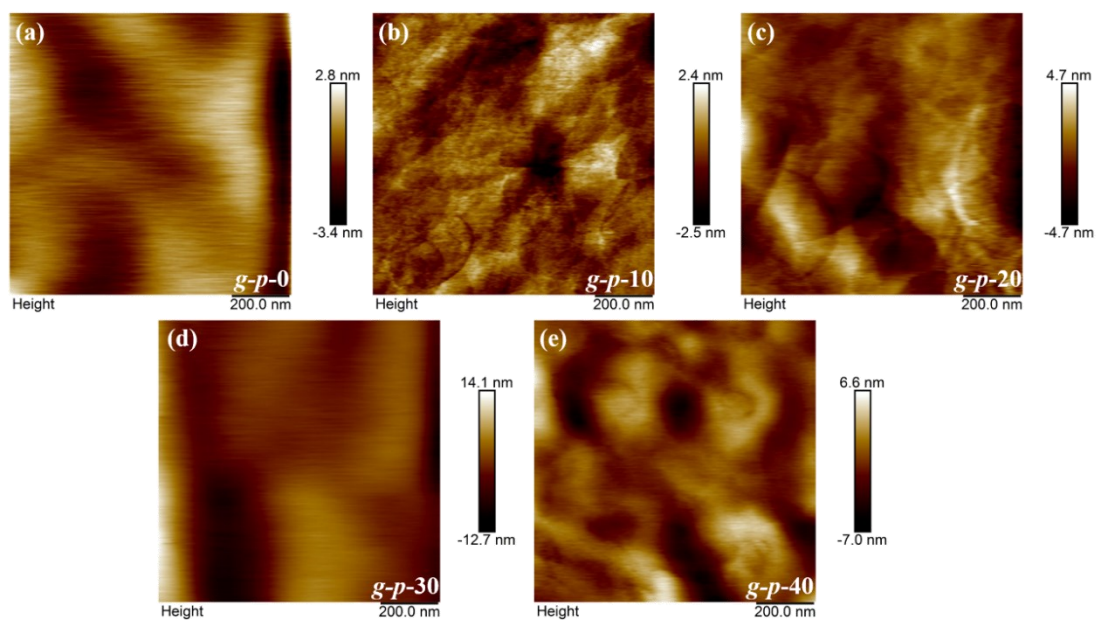


Fig. S2. The atomic force microscopy images of *g-p-0*, *g-p-10*, *g-p-20*, *g-p-30*, *g-p-*

40.

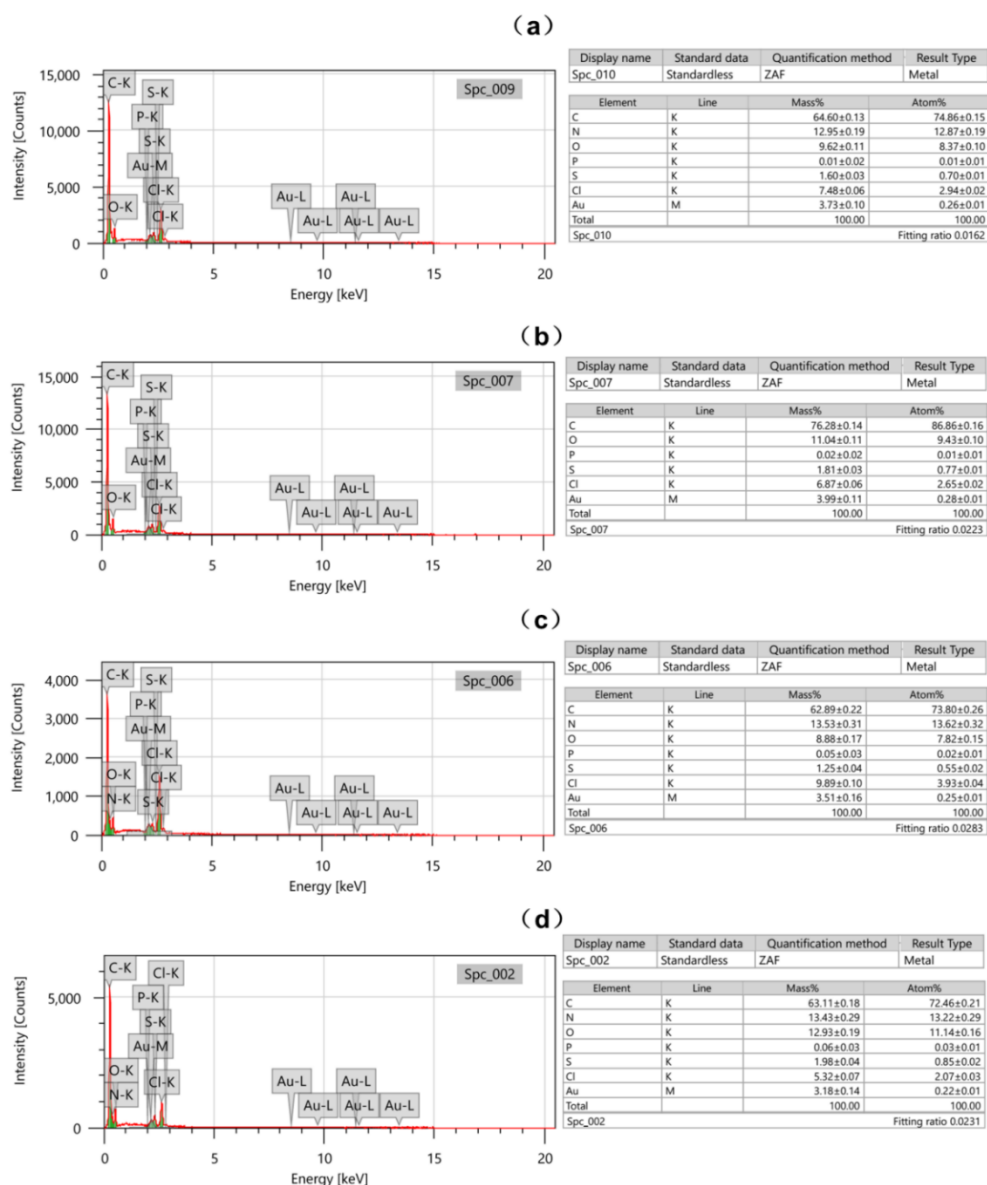


Fig. S3. EDS (energy dispersive spectroscopy) of (a) *g-p-10*, (b) *g-p-20*, (c) *g-p-30*,
(d) *g-p-40*.

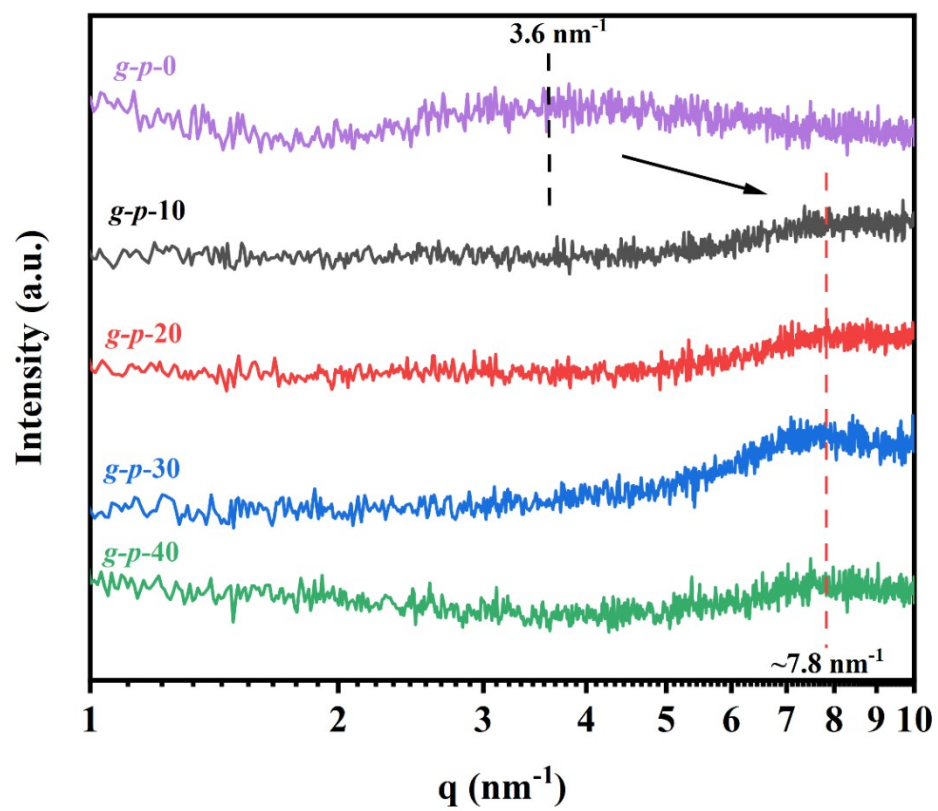


Fig. S4. SAXS of g-p-X membranes.

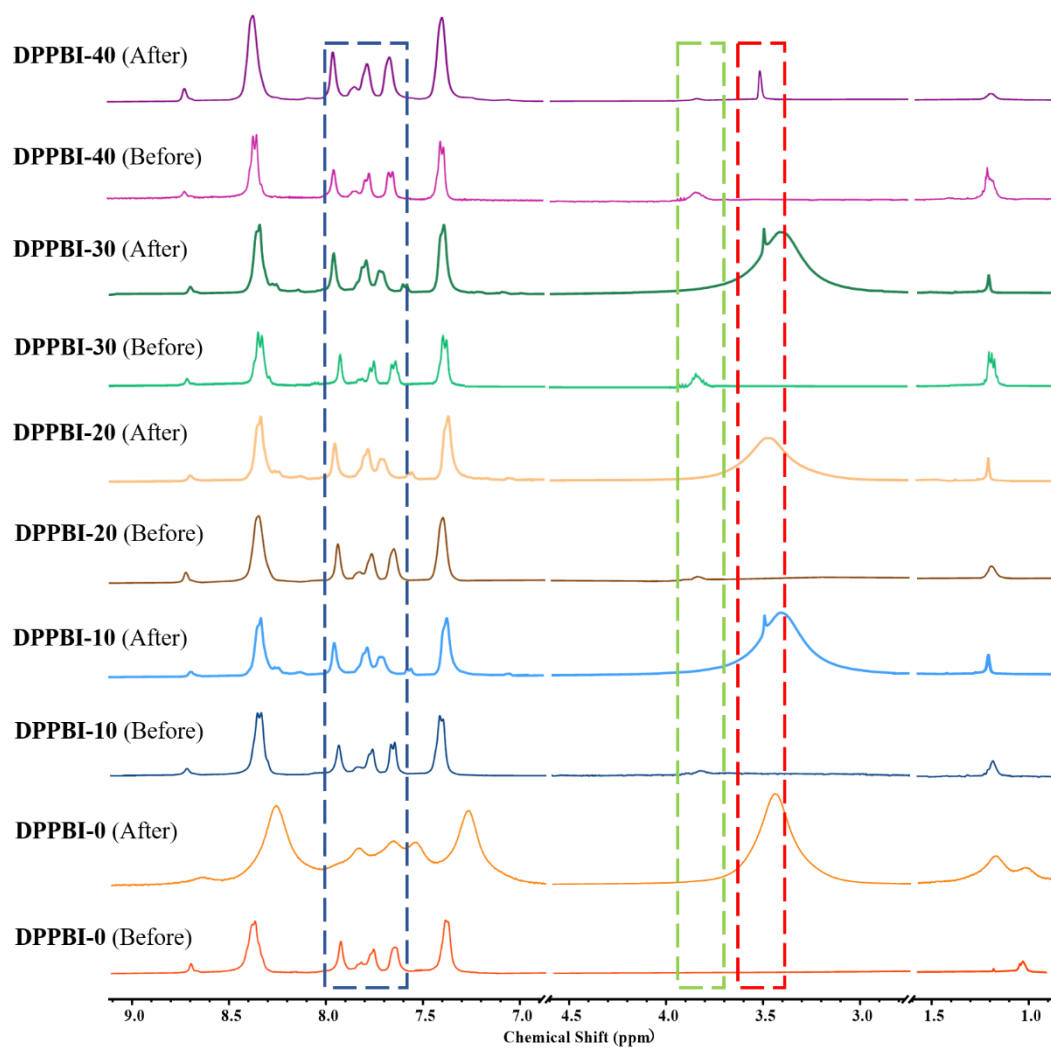


Fig. S5. ^1H NMR of DPPBI membranes before and after Fenton's test.

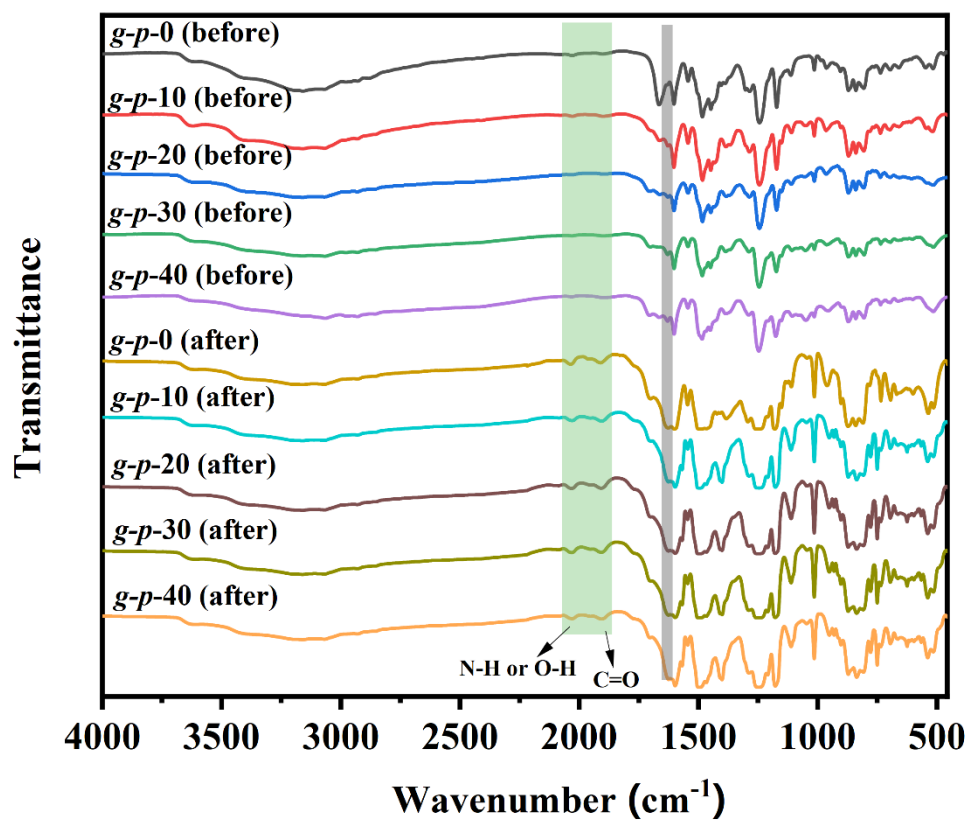


Fig. S6. FT-IR of *g-p-X* membranes before and after Fenton's test.