Electronic Supplementary Material (ESI) for New Journal of Chemistry.

A simple strategy based on a high fluorinated polymer blended with a fluorinated polymer containing phosphonic acid to improve the properties of PEMFC

Supporting information

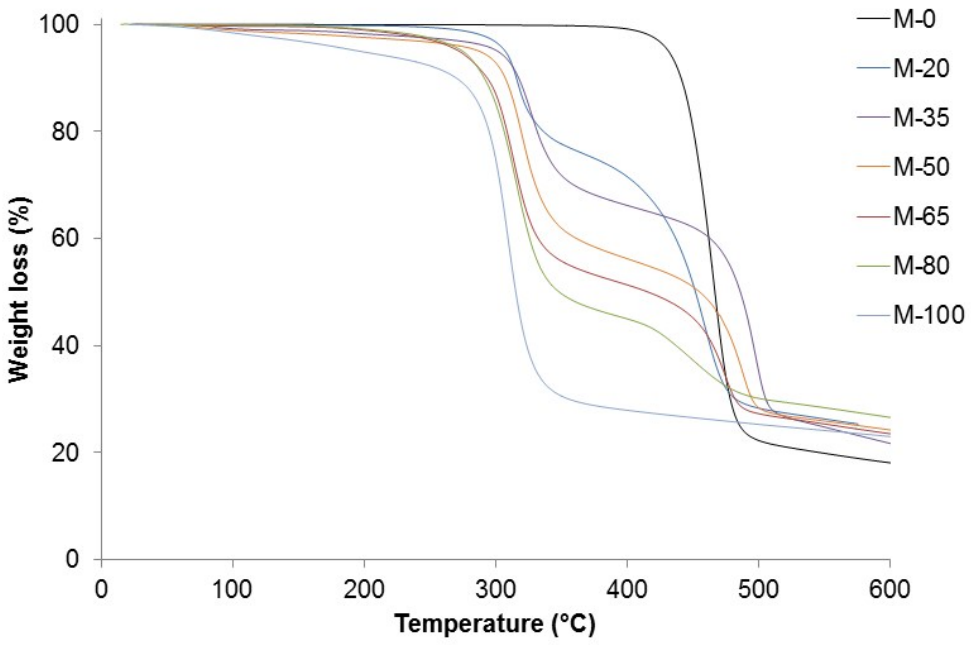

Fig. S1 TGA of membranes recorded under nitrogen atmosphere

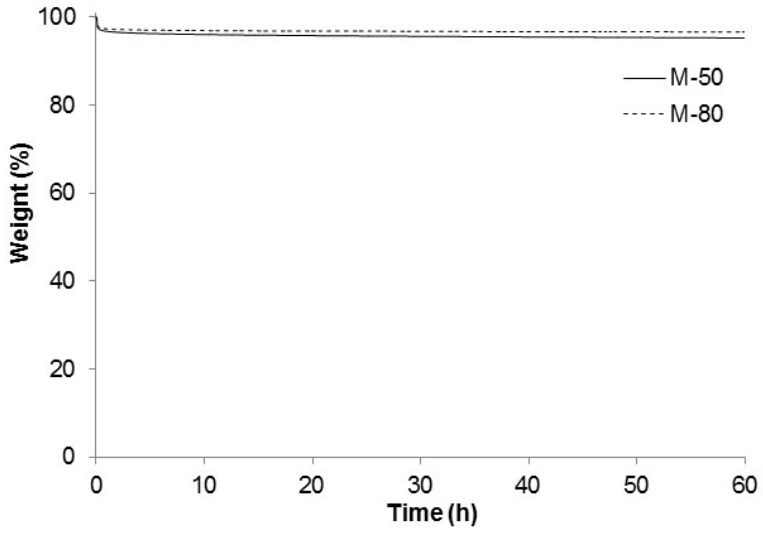

Fig. S2 Isotherms of membranes M-50 and M-80 recorded under nitrogen atmosphere at 140°C during 60hrs

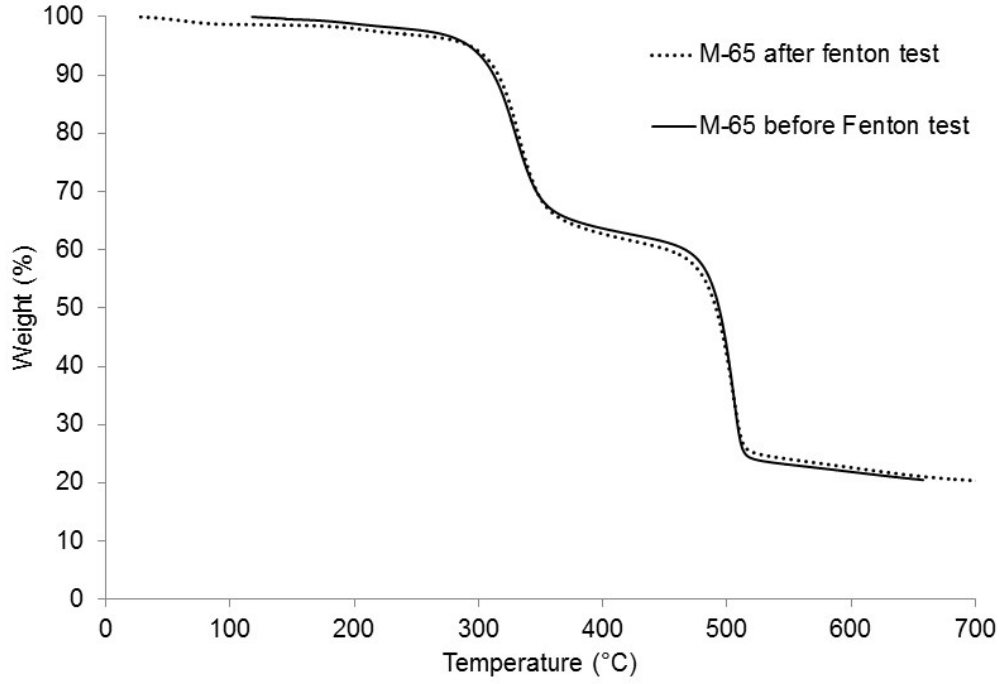

Fig. S3 TGA of M-65 recorded under nitrogen atmosphere before and after Fenton test

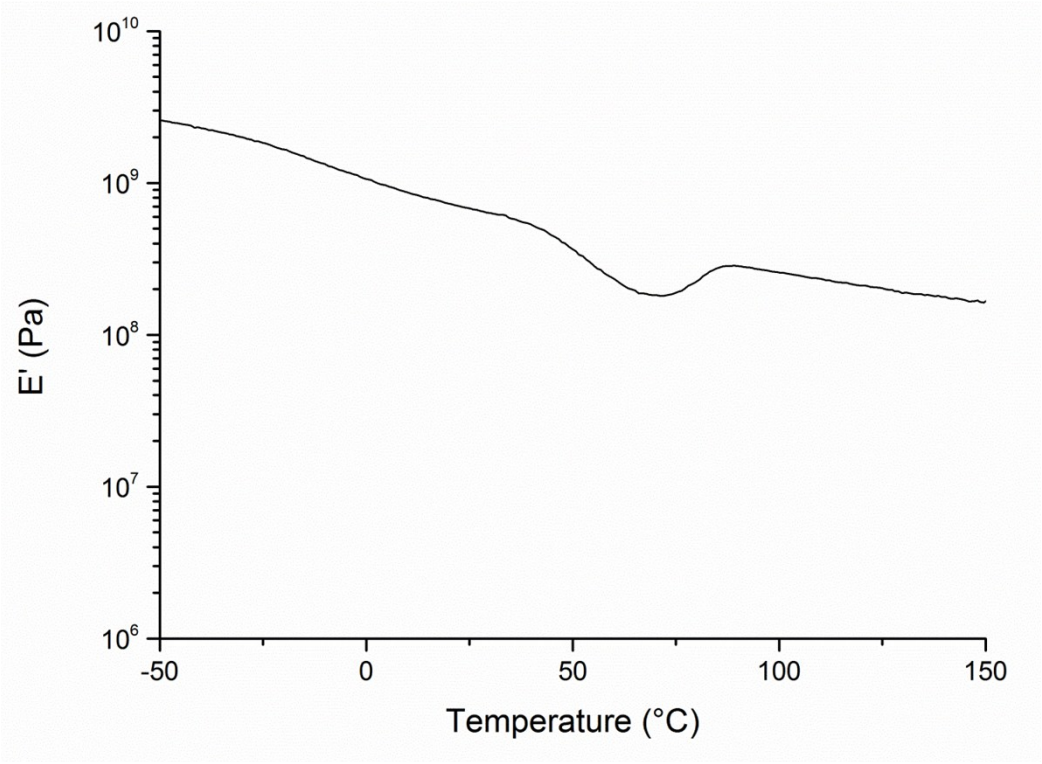

Fig. S4 Conservation modulus versus temperature of M-0 performed at 1Hz and 2°C.min-1.

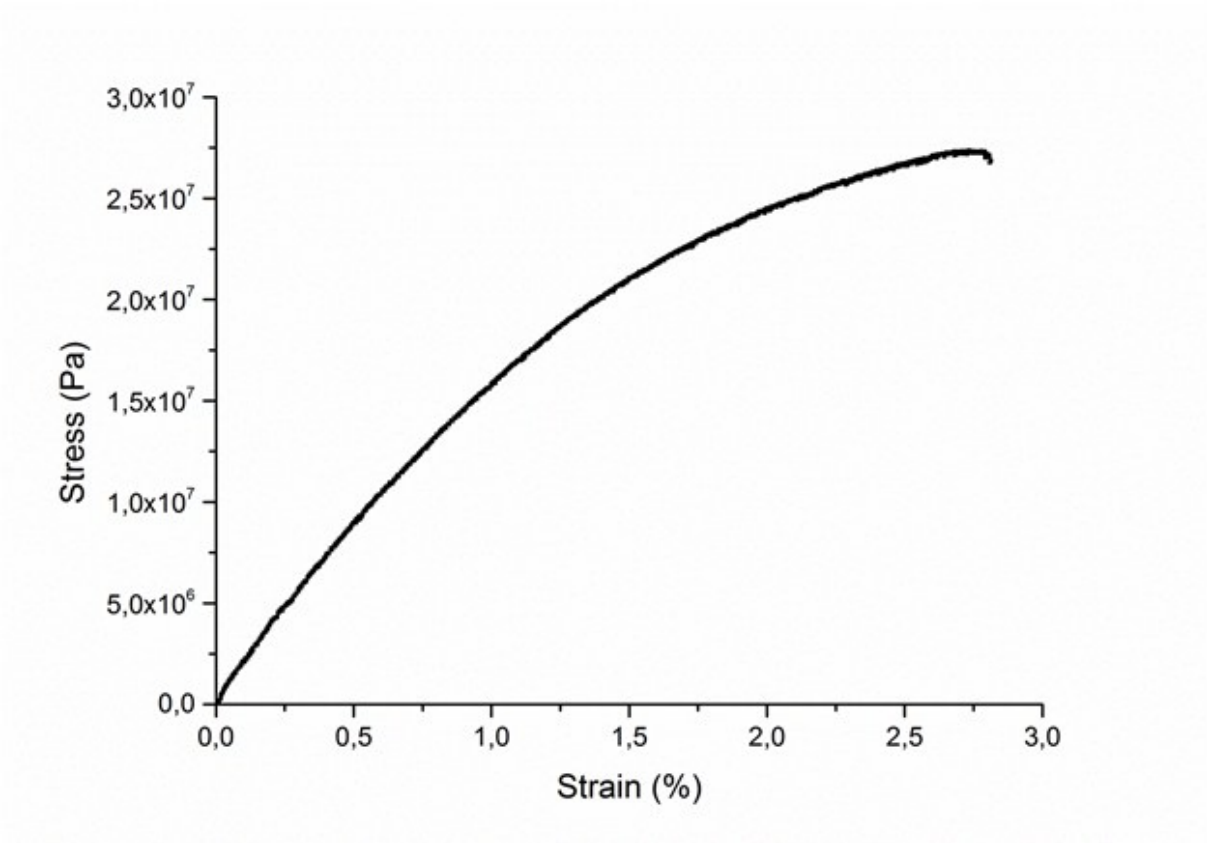

Fig. S5 Typical nominal stress-strain curve for M-50 membrane at room temperature

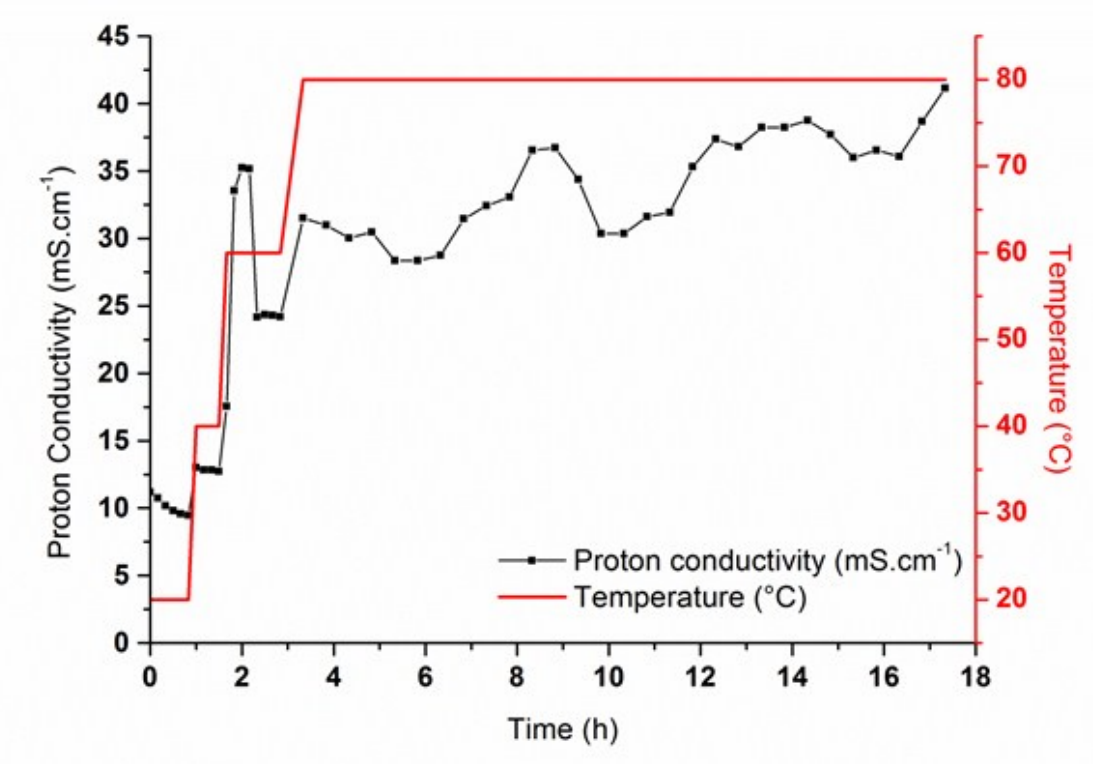

Fig. S6 Example of the evolution of Proton conductivity in liquid water versus time for various temperatures for the M-50 membrane

Table S1

Storage Modulus of the blend membranes at different temperature and RH

Membrane	Storage modulus (MPa)[a]			Storage modulus (MPa)[b]		
	T=-100°C	T=25°C	T=140°C	RH=10%	RH=50%	RH=100%
M-0	2500	800	220	800	800	800
M-20	4350	556	37	1400	1200	900
M-35	3600	410	27	1000	734	270
M-50	2600	762	61	410	310	140
M-65	6440	1300	84	520	210	32

[a] Determined at variable Temperature and Ambient RH

[b] Determined at 25°C and variable RH