

Supporting Information

가돌리늄이 도핑된 세륨 옥사이드 나노입자를 포함한 고분자 전해질 연료전지용 술폰화 폴리(이서 이서 케톤) 복합막

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Development of composite membranes of sulfonated poly(ether ether ketone) and gadolinium-doped ceria nanoparticles for polymer electrolyte membrane fuel cells

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Figure S1. EDS analysis of synthesized the GDC nanoparticles.

Figure S2. Synthetic process of SPEEK.

Figure S3. SEM images of SPEEK/GDC composite membranes containing 1wt% GDC with different dispersion conditions. (a) sonication for 3h followed by mixing for 24h, (b) mixing for 24h followed by sonication for 3h, (c) mixing for 24h without sonication.

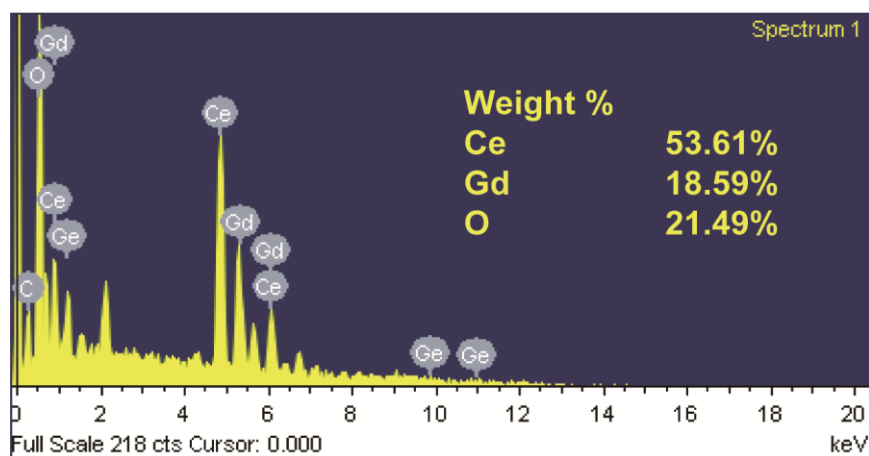


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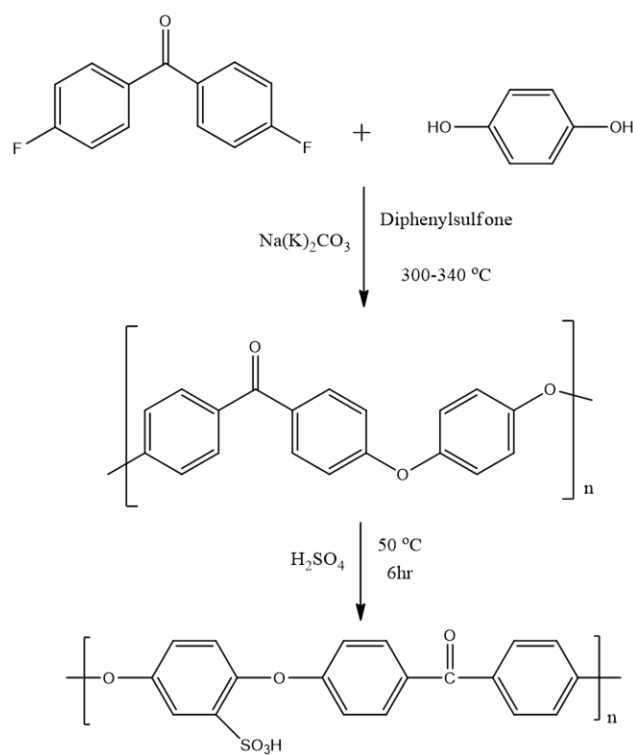


Figure S2. Synthetic process of SPEEK.

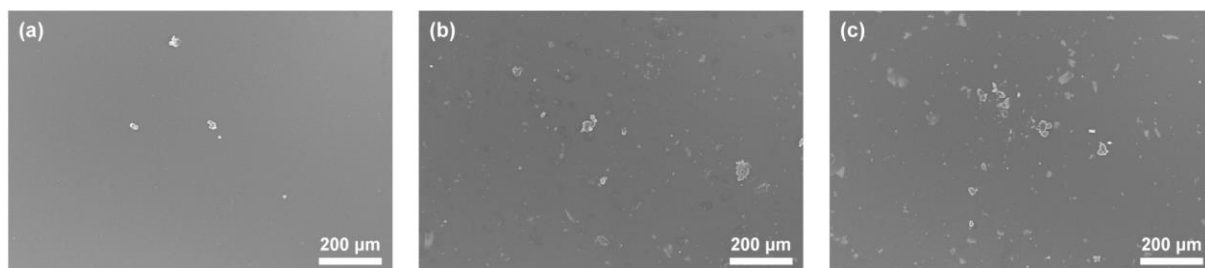


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