

## Supplementary Information

### A novel carbon/ZSM-5 nanocomposite membrane with high performance for oxygen/nitrogen separation.

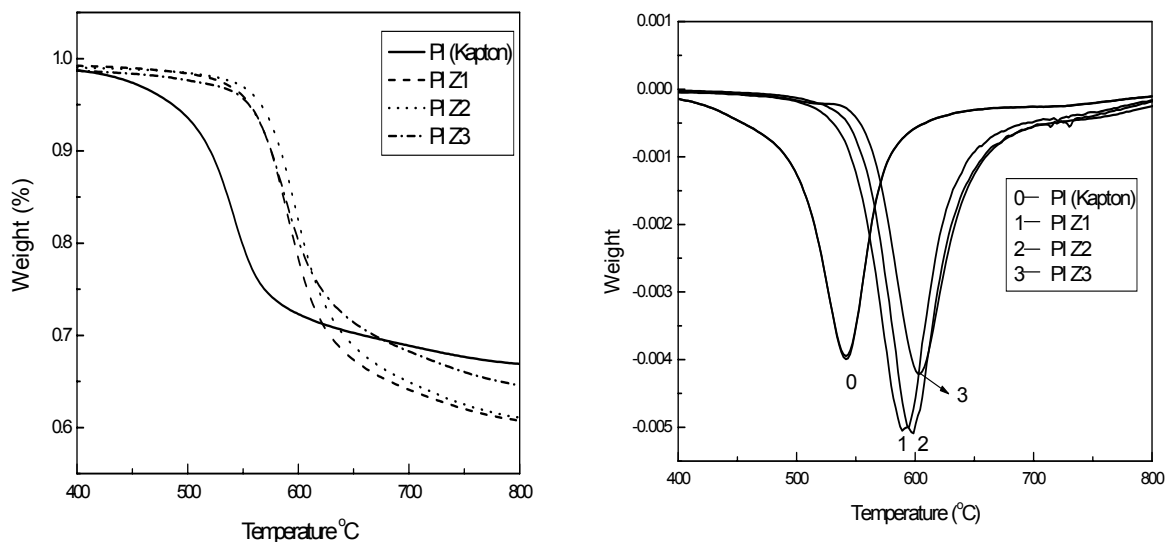
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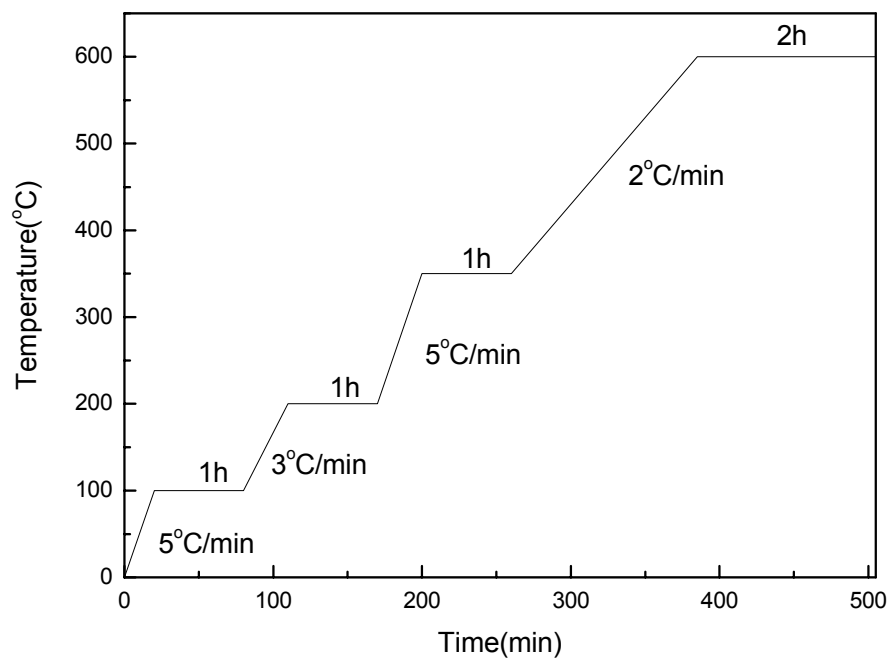
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#### Thermogravimetric analysis (TGA)



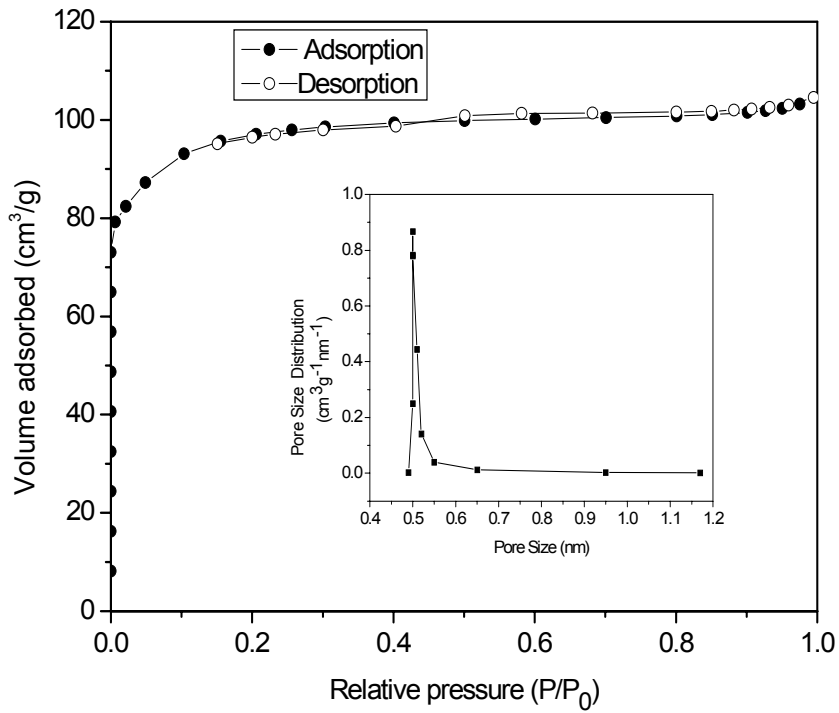
**Figure 1.** Thermogravimetric analysis (TGA) and differential TGA curves for PI membrane and PI/ZSM-5 composite membranes.

### Ramping profile for pyrolysis of precursor



**Figure 2.** Ramping profile for pyrolysis of precursor.

### Nitrogen adsorption isotherms of pure nano-ZSM-5 at 77K



**Figure 3.** Nitrogen adsorption isotherms of pure nano-ZSM-5 at 77K