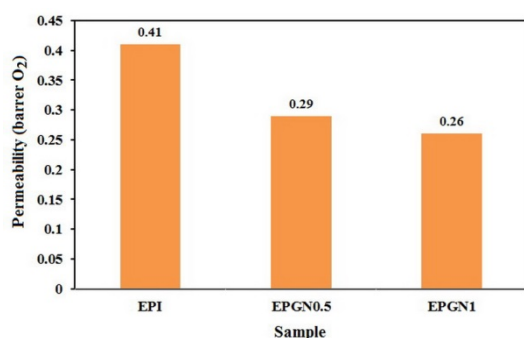
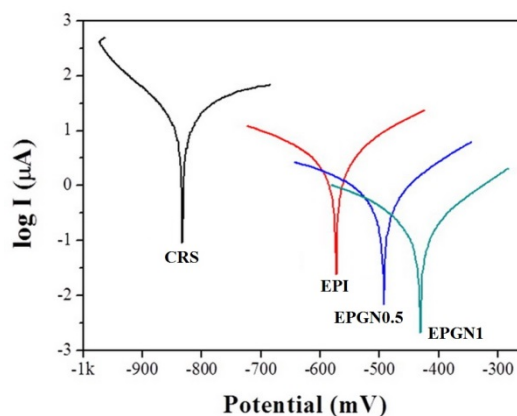


2. Why the author selected the 0.5 wt % content of graphene?

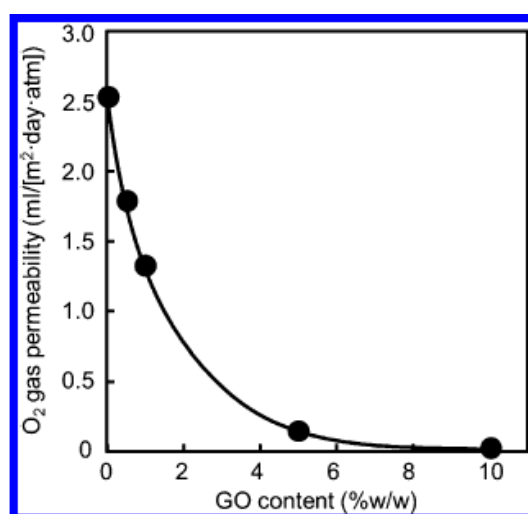
In our related studies and other published reports, which were confirmed when embedded a small amount of graphene (e.g. 0.5 wt %) in polymer matrix, could effectively enhance the oxygen barrier properties of nanocomposite. While adding more content could be further improved the gas barrier and anticorrosive properties (as shown in the following figures), however, in this study, the nanocomposite coatings with both hydrophobicity and gas barrier properties. Therefore, we just added 0.5 wt % content of graphene to prepare the nanocomposite coatings.



Permeability of oxygen as a function of the graphene content in the EPGN materials.



Tafel plots for bare, EPI-coated, EPGN0.5-coated and EPGN1-coated CRS electrode at $25 \pm 0.5^\circ\text{C}$.



O₂ gas permeability of PMMA film and PMMA/GO nanocomposites. (Source: *ACS Appl. Mater. Interfaces* 2012, 4, 3596-3601)