

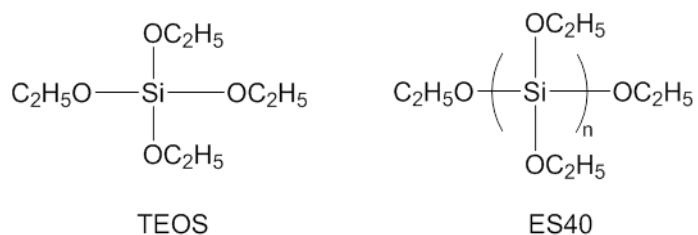
Scientific Reports

Electronic Supplementary Information

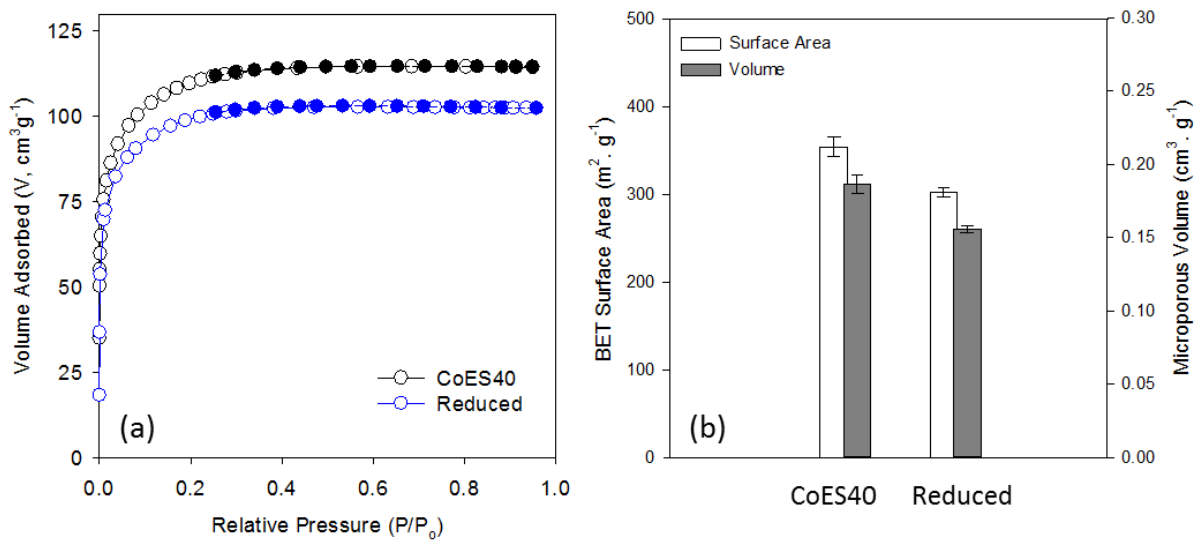
Reversible Redox Effect on Gas Permeation of Cobalt Doped Ethoxy Polysiloxane (ES40) Membranes

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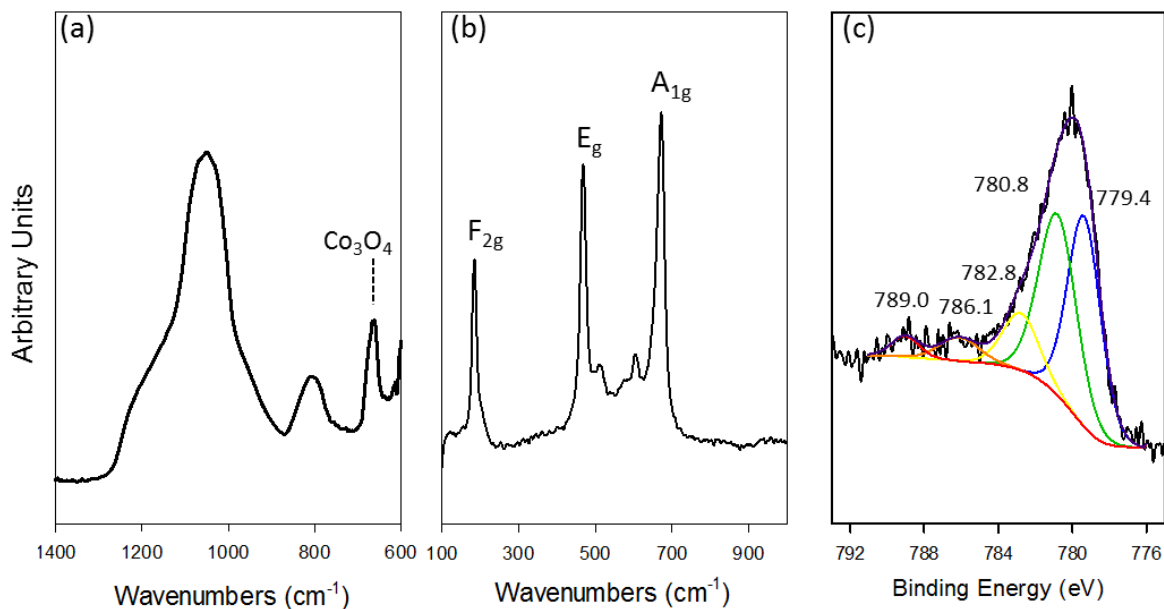
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S1. Chemical structures of the tetraethylorthosilicate (TEOS) and the ethoxy polysiloxane (ES40).



S2. (a) N_2 adsorption (open circles) and desorption (closed circles) isotherms for the as prepared and hydrogen reduced CoES40 xerogels, and (b) their corresponding BET surface areas and microporous volumes.



S3. Chemical compositions of the re-oxidised CoES40 xerogel (after He pre-conditioning) by (a) ATR-FTIR, (b) micro-Raman and (c) High resolution XPS of Co 2p.