

Supplementary Information

High Performance BaBiScCo Hollow Fibre Membranes for Oxygen Transport

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ESI-1. Energy of Activation

The energy of activation is shown in Figure S1. In this calculation, we normalised all O₂ fluxes to the same driving force and used an experimentally fitted simplified version of the Wagner equation (1) and $n=0.25$ ^{1,2,3}:

$$J_{O_2} = \alpha [p_{O_2}^{\prime -n} - p_{O_2}^{\prime\prime -n}] \quad (1)$$

where J_{O_2} represents the oxygen flux, α is constant, n is the controlling steps for oxygen transport, p'_{O_2} (21 kPa) and p''_{O_2} (1 kPa) the oxygen partial pressure at the feed and permeate sides, respectively.

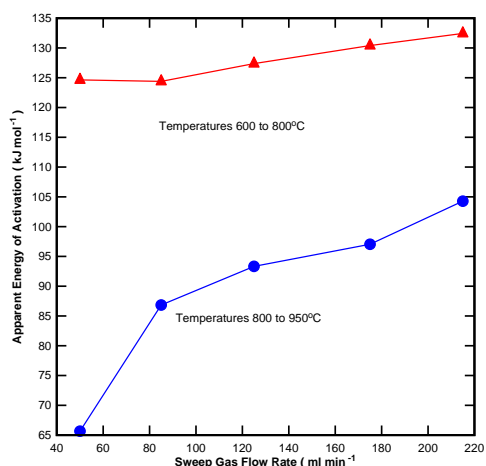


Figure S1. Energy of activation versus the sweep gas flow rate.

ESI – 2. The effect of the O₂ partial pressure

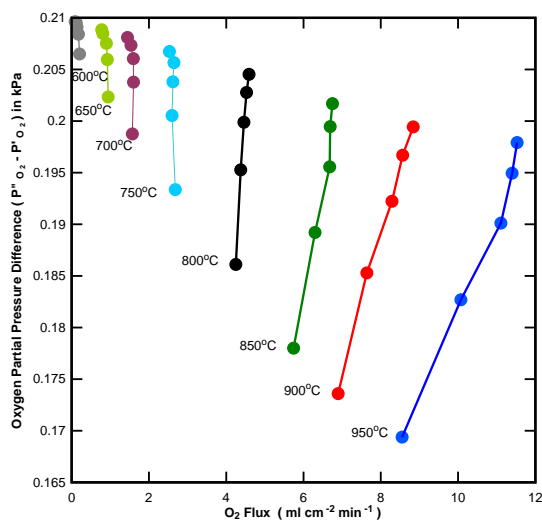


Figure S2. Effect of O₂ pressure difference on O₂ fluxes

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³ T. Tablet, G. Grubert, H. Wang, T. Schiestel, M. Schroeder, B. Langanke, J. Caro, *Catal. Today*, 2005, **104**, 126.