Supporting Information

Oxygen Diffusion in Crosslinked, Ethanol-Swollen Poly(Vinyl Alcohol) Gels: Counter-Intuitive Results Reflect Microscopic Heterogeneities

Nickolass Bitsch Schack,¹ Cristiano L. P. Oliveira,² Niall W. G. Young,³ Jan Skov Pedersen,² and Peter R. Ogilby¹*

¹ Center for Oxygen Microscopy and Imaging, Department of Chemistry, University of Aarhus, DK-8000, Århus, Denmark
² Department of Chemistry and The Interdisciplinary Nanoscience Center (iNANO), University of Aarhus, DK-8000, Århus, Denmark
³ Danisco A/S, DK-8220, Brabrand, Denmark and The Faculty of Applied and Health Sciences, Environmental Quality and Food Safety, University of Chester, Chester, UK

*To whom correspondence should be addressed: progilby@chem.au.dk

Contents:

1. Analysis of SAXS Data (p S2)
1. Analysis of SAXS Data

In Figure S1, we show contributions of the various terms in eq 2 together with typical data recorded in our SAXS experiments on crosslinked ethanol-swollen PVA gels.

Figure S1: A typical SAXS experimental data set for an ethanol-swollen gel along with curves showing the various contributions to the expression (eq 2) used to model the scattering intensity: The “large” term (solid line), the “domain” term (dashed line) and the “Lorentz” term (dashed-dotted line).
In Figure S2, we show how $\alpha_{\text{domain}}$ changes as a function of the degree of crosslinking in our ethanol-swollen gels.

**Figure S2:** Plot of the exponent for the “domain” term, $\alpha_{\text{domain}}$, against the degree of crosslinking in our ethanol-swollen PVA gels. The solid line is simply a guide for the eye.