Supporting Information

Effect of particle size on droplet infiltration into hydrophobic porous media as a model of water repellent soil

Christopher A. E. Hamlett[1], Neil J. Shirtcliffe[1], Glen McHale[1], Sujung Ahn[2], Robert Bryant[2], Stefan H. Doerr[2] and Michael I. Newton.[1]*

[1]School of Science and Technology, Nottingham Trent University, Clifton Lane, Nottingham, NG11 8NS, United Kingdom

[2]College of Science, Swansea University, Singleton Park, Swansea, SA2 8PP, United Kingdom

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Contains 1 table and 4 figures in 4 pages

Table S1. Table of glass beads of different sieve fractions in the size ranges 0.18-0.21 mm up to 1.8-2.0 mm used in the work.

Sieve range of beads in bottom layer / mm *(Catalogue number from Whitehouse Scientific)*	Radius of beads in bottom layer (R) / mm	Sieve range of beads in top layer / mm *(Catalogue number from Whitehouse Scientific)*	Radius of beads in top layer (r) / mm	r/R
0.18 – 0.212 *(GP0196)*	0.098	0.18 – 0.212 *(GP0196)*	0.098	1.00
0.35 – 0.40 *(GP0375)*	0.1875	0.35 – 0.40 *(GP0375)*	0.1875	1.00
0.710 – 0.85 *(GP0780)*	0.39	0.71 – 0.85 *(GP0780)*	0.39	1.00
1.12 – 1.18 *(GP1150)*	0.575	1.12 – 1.18 *(GP1150)*	0.575	1.00
1.40 – 1.60 *(GP1500)*	0.75	1.40 – 1.60 (*GP1500)*	0.75	1.00
1.70 – 1.80 *(GP1750)*	0.875	1.70 – 1.80 *(GP1750)*	0.875	1.00
0.1926 (monodisperse) *(MS0192)*	0.0963	0.177 (monodisperse) *(MS0177)*	0.0885	0.92
1.70 – 1.80 *(GP1750)*	0.875	1.40 - 1.60 *(GP1500)*	0.75	0.86
0.18 – 0.212 *(GP0196)*	0.098	0.15 – 0.18 *(GP0165)*	0.0825	0.84
1.80- 2.0 *(GP1900)*	0.95	1.40 – 1.60 *(GP1500)*	0.75	0.79
0.18 – 0.212 *(GP0196)*	0.098	0.125 – 0.150 *(GP0138)*	0.07	0.78
1.40 – 1.60 *(GP1500)*	0.75	1.12 – 1.18 *(GP1150)*	0.575	0.78
0.2009 (monodisperse) *(MS0201)*	0.10045	0.1558 (monodisperse) *(MS0516)*	0.0779	0.77
1.12 – 1.18 *(GP1150)*	0.575	0.71 – 0.85 *(GP0780)*	0.39	0.68
1.8 – 2.0 *(GP1900)*	0.95	1.12 – 1.18 *(GP1150)*	0.575	0.61

Example MED curves

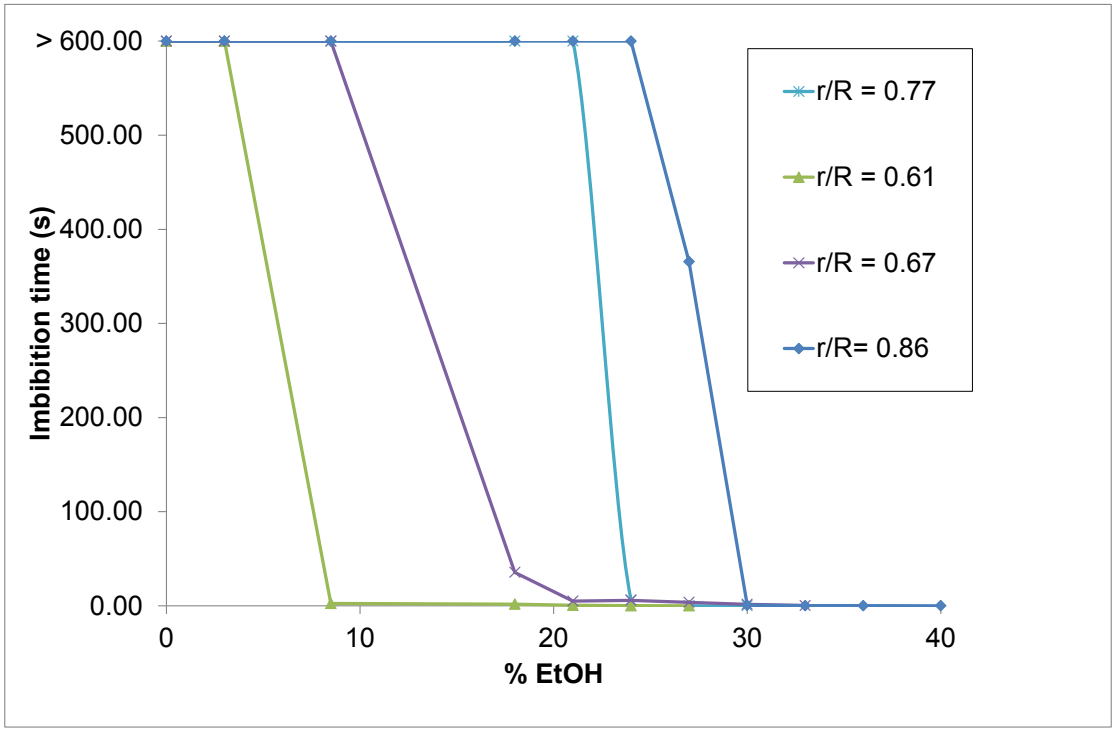

Figure S1. Typical examples of Molarity of Ethanol Droplet (MED) curves.

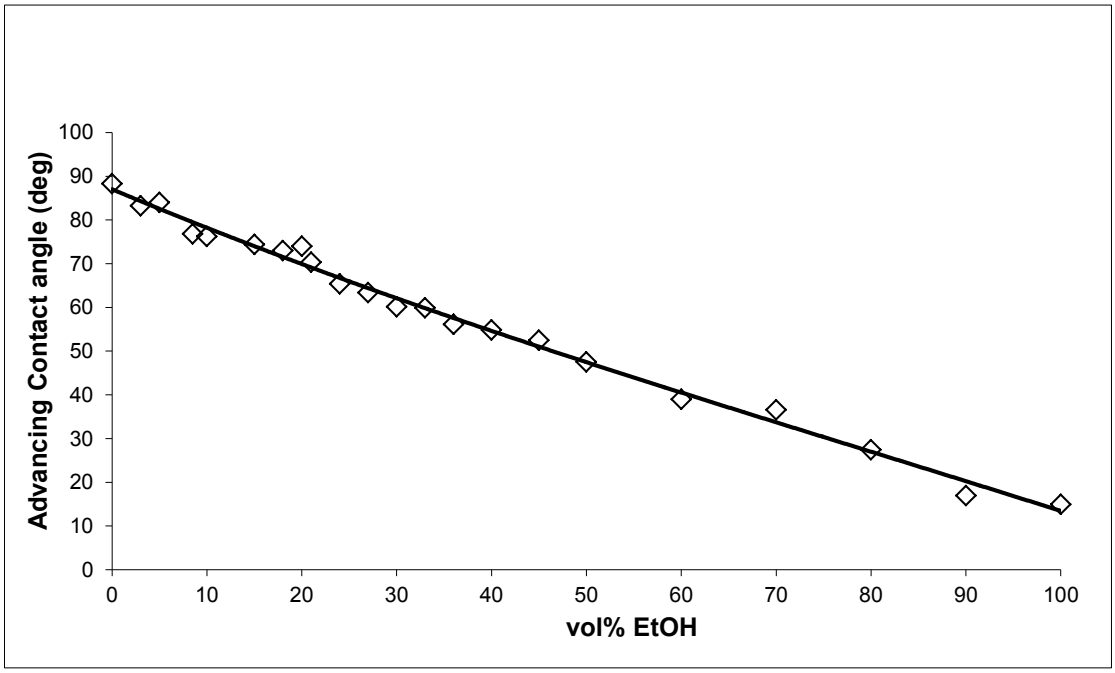

Figure S2. The solid line shows the interpolation to advancing contact angle for any concentration solution using equation 2 in the manuscript.

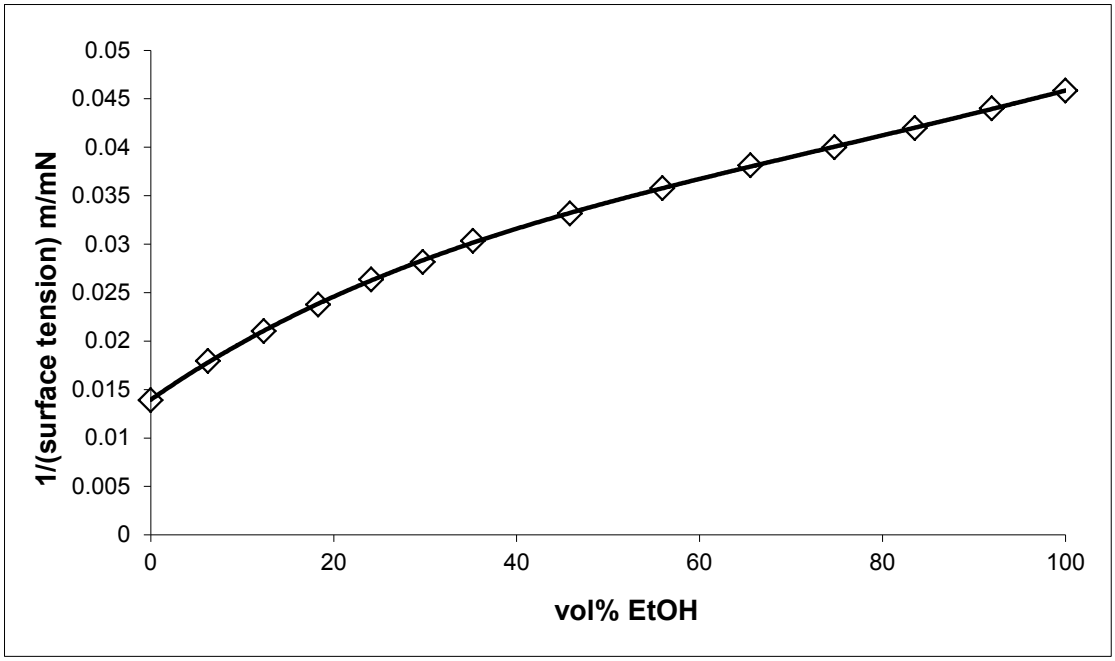

Figure S3. The solid line shows the interpolation to 1/surface tension for any concentration solution using equation 3 presented in the manuscript. Surface tensions of ethanol solutions in water literature values shown are taken from G. Vázquez, E. Alvarez and J. M. Navaza J.Chem. Eng. Data 40, 611 (1995).

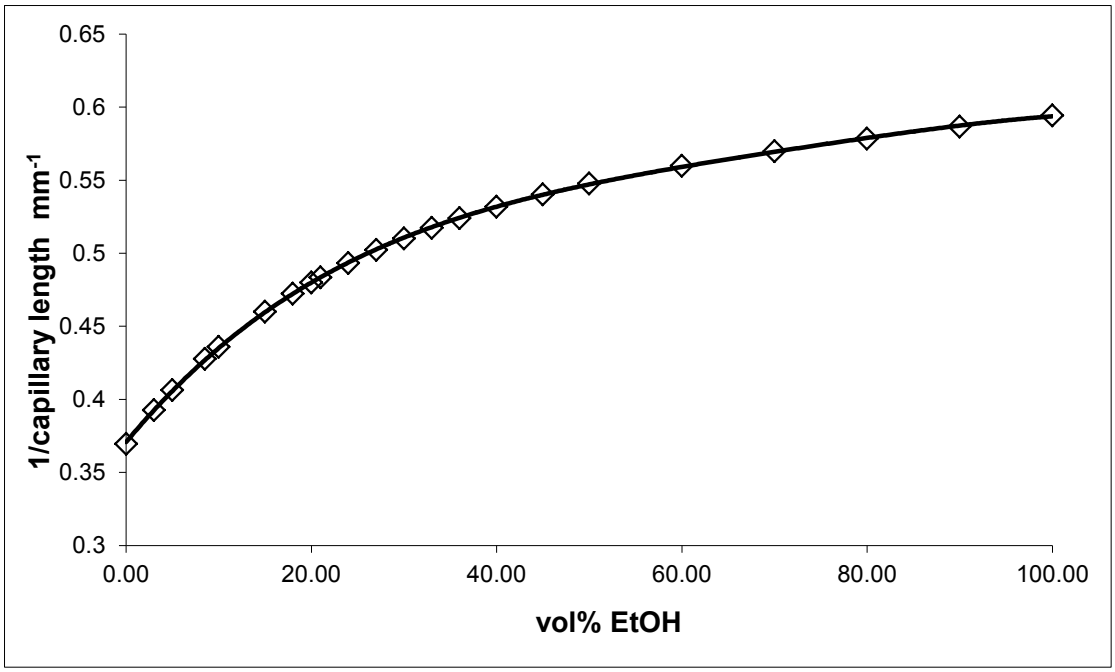

Figure S4. The solid line shows the interpolation to 1/ capillary length for any concentration solution using equation 4 presented in the manuscript.