

# SPONTANEOUS LIQUID MARBLE FORMATION ON PACKED POROUS BEDS

## SUPPORTING INFORMATION

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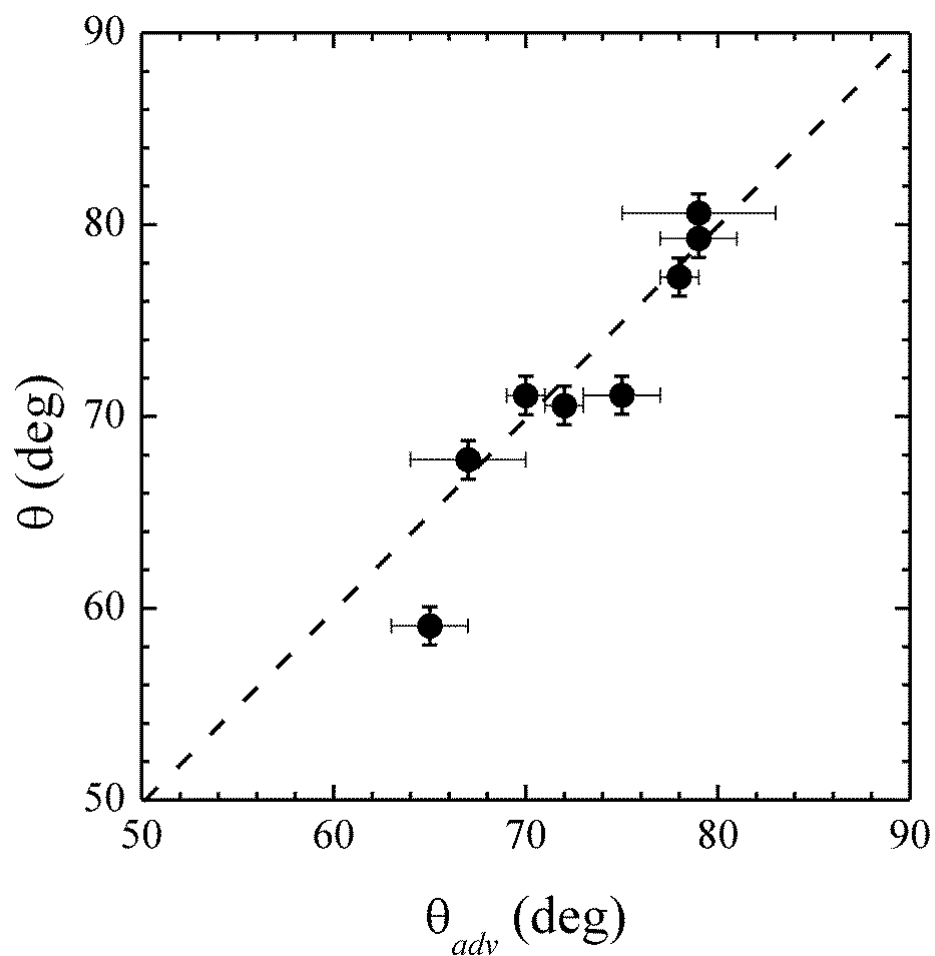
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Particle contact angles derived from times for drop penetration into beds	S2
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Particle contact angles derived from times for drop penetration into beds

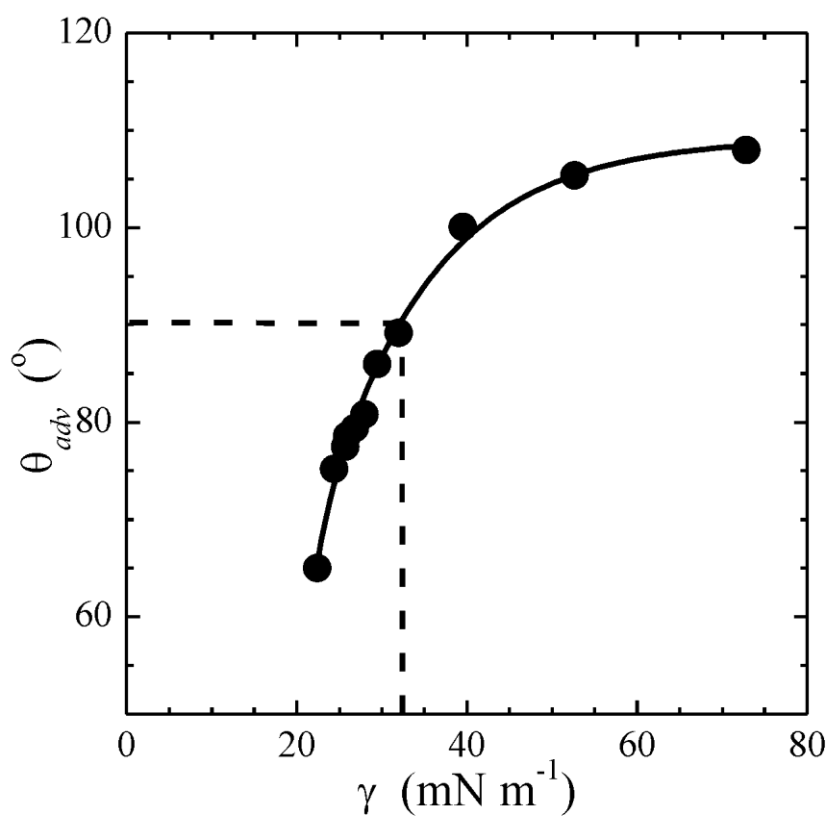
The contact angle of the ethanol-water solutions on the particles were derived from measurements of the time taken for the drops to penetrate into the powder bed, using Eq. (2).



**Figure S1.** Comparison between the contact angle,  $\theta$ , derived from the penetration time,  $\tau$ , of ethanol-water drops in packed particle beds and the advancing contact angle,  $\theta_{adv}$ , measured on flat glass slides silanised in the same fashion as the glass beads. The dashed line with a slope of unity indicates equivalence.

### Wetting behaviour of hydrophobic flat surface

A model for the surface of the treated quartz beads used in our experiments is the surface of a glass slide silanised in the same fashion as the beads. Figure S2 summarises the wetting behaviour of various liquids on the fluorinated slide.



**Figure S2.** Surface tension dependence of the contact angles on a hydrophobic glass slide.

The dashed lines indicate the surface tension corresponding to contact angles of 90°.