Electronic Supplementary Material (ESI) for Soft Matter. This journal is © The Royal Society of Chemistry 2017

Electronic Supplementary Information

Tailoring crack morphology in coffee-ring deposit via substrate heating

Hisay Lama^{*a,b*}, Madivala G. Basavaraj^{*b*} and Dillip K. Satapathy^{*a*}



March 15, 2017

Figure S1: Infra red (IR) thermography of the heating stage maintained at different temperature is shown. The temperature is found to be uniform throughout surface of the heating stage.



Figure S2: Infra red (IR) thermography of the sessile drops placed on a heating stage and maintained at temperature 34° C is shown. The sessile droplet is highlighted by a dotted circle, the temperature across the contact line is uniform and is same as that of temperature of the substrate while temperature at the apex of the drop is about 32° C.



Figure S3: Microscopy images of a part of a coffee-ring deposit shows the crack pattern for particle concentration 2.0 wt % with the temperature range varying from $T_{sub} = 25^{\circ}$ C to 50° C. The scale bar is 200 μ m. The cracks in a particulate deposit are ordered with the increase in substrate temperature. The crack branches at the vicinity of the contact line is suppressed with the increasing substrate temperature.



Figure S4: Microscopy images of a part of a coffee-ring deposit with a crack patterns at $T_{sub} = 25^{\circ}C$, $34^{\circ}C$ & $45^{\circ}C$ for a particle concentration ' ϕ ' varying from 0.5 wt% to 0.9 wt %. The scale bar is 200 μ m. The crack branches at the vicinity of the contact line for particulate deposits reduces with the increase in substrate temperature from $25^{\circ}C$ to $45^{\circ}C$.