Insights into the role of dicarboxylic acid on CCN activity: implications for surface tension and phase state effects

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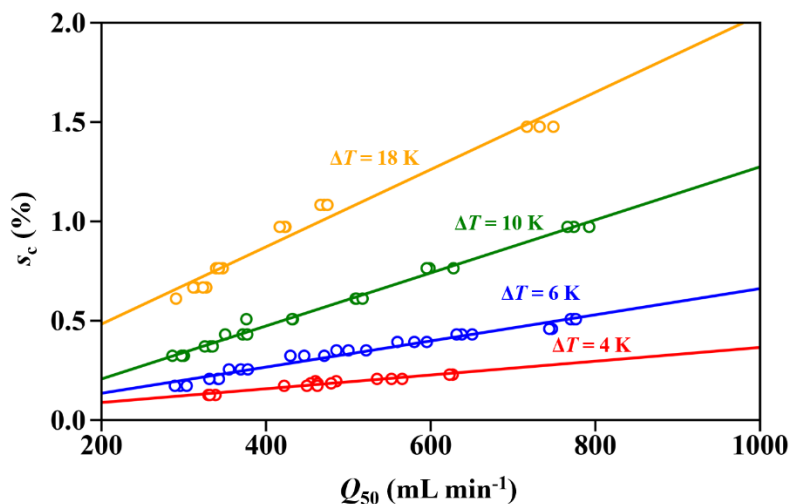
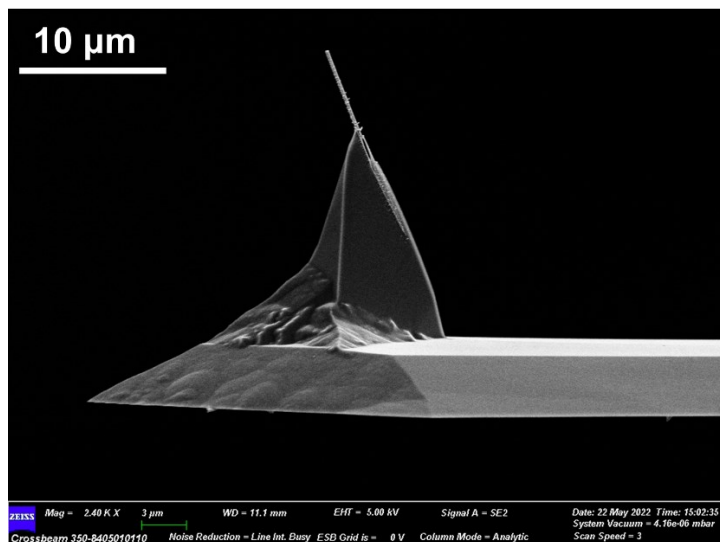


Figure S1: Illustration of SFCA calibration measurements performed with AS (for ΔT = 4 K, 6 K, 10 K and 18 K). The slope and intercept of the 4 K line are 0.00034657 and 0.018893; the slope and intercept for the 6 K are 0.00065835 and 0.003186; the slope and intercept for the 10 K are 0.00133500 and 0.060370 and the slope and intercept for the 18 K are 0.00194577 and 0.09362373.

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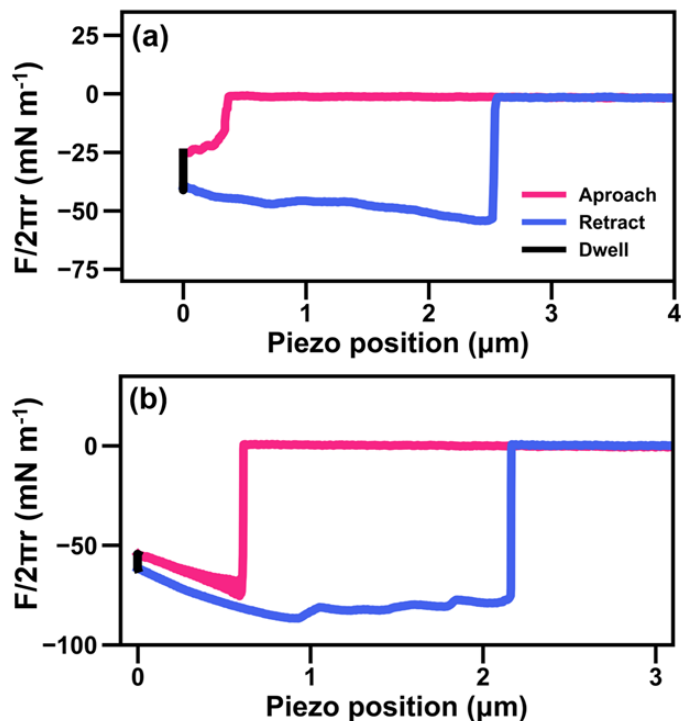
21 **Figure S2: SEM image of a custom-built high aspect ratio (HAR) platinum nanoneedle with constant diameter.**

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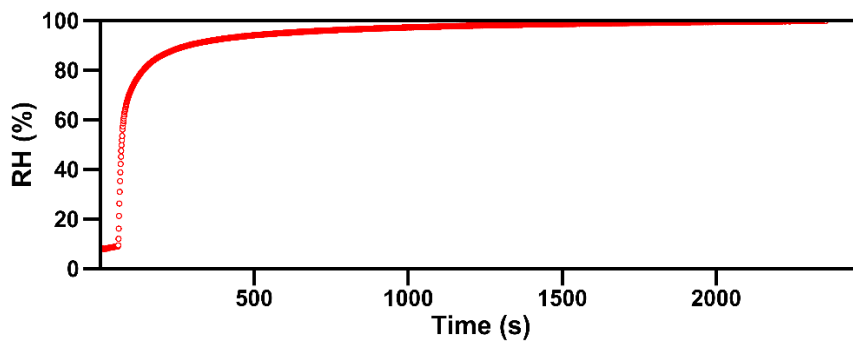
23 **Figure S3: Force (F) plots of bulk surface tension experiment using AFM on (a) 1, 3-propanediol and (b) water, diameter values**
24 **were obtained roughly from SEM picture of needle. Pink, blue and black lines indicate approaching progress, retracting progress**
25 **and dwell, respectively. The surface tension of water and 1, 3-propanediol were 73.6 mN m⁻¹ and 48.7 mN m⁻¹, being consistent to**
26 **results in previous study (Romero and Paéz, 2006). Though SEM picture could obtain rough dimeter values, calibration by**
27 **measuring water surface tension were performed before submicron particles experiments for precise dimeter (Kaluarachchi et al.,**
28 **2021).**

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30 **Figure S4: RH variation in AFM cell. RH increased from 10% to over 99.5% in around 40 minutes.**

31

32 **Reference**

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