

## Accepted Manuscript

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PII: S0927-7757(18)30601-0  
DOI: <https://doi.org/10.1016/j.colsurfa.2018.06.084>  
Reference: COLSUA 22653

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 16-5-2018  
Revised date: 27-6-2018  
Accepted date: 29-6-2018

Please cite this article as: Salem TK, Budaklı M, Şahan O, Arık M, An experimental and analytical study on the influence of superhydrophobic micro-textured surfaces on liquid wetting phenomena, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* (2018), <https://doi.org/10.1016/j.colsurfa.2018.06.084>

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# An experimental and analytical study on the influence of superhydrophobic micro-textured surfaces on liquid wetting phenomena

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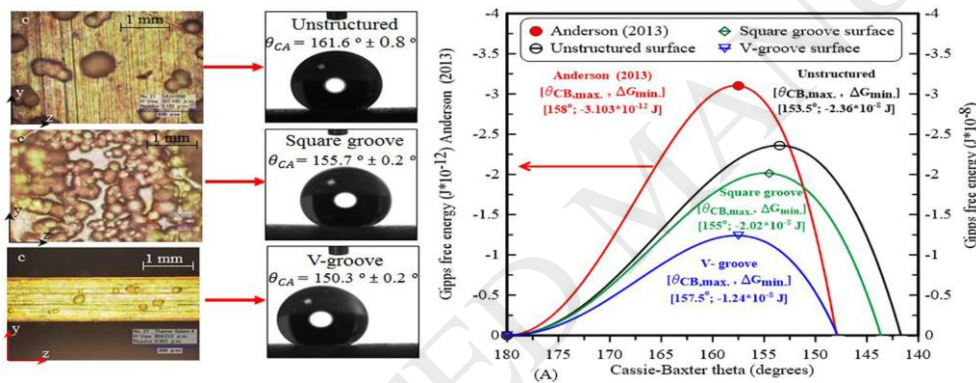
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## Graphical Abstract:



## Highlights

- Microstructured surfaces are developed for various hydrophobicity values
- An experimental and analytical study has been conducted to investigate the influence of micro-nano-textured surfaces on the liquid wetting phenomena.
- The wetting phenomena with different microstructured surfaces as well as an unstructured surface have been evaluated
- Experimental results of droplet contact angle and surface energy are then compared with analytical calculations (thermodynamic model and capillary Laplace equation)
- Experimental results reveal that the average water contact angle increases by 34.5 % and 52.5 % for the square-grooved and v-grooved surface, respectively.

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