

**Student Talk**  
**Inter-Disciplinary Explorations in Chemistry (I-DEC 2018)**

**Templated polymerisation of Dopamine for superior Anti-bacterial coatings**

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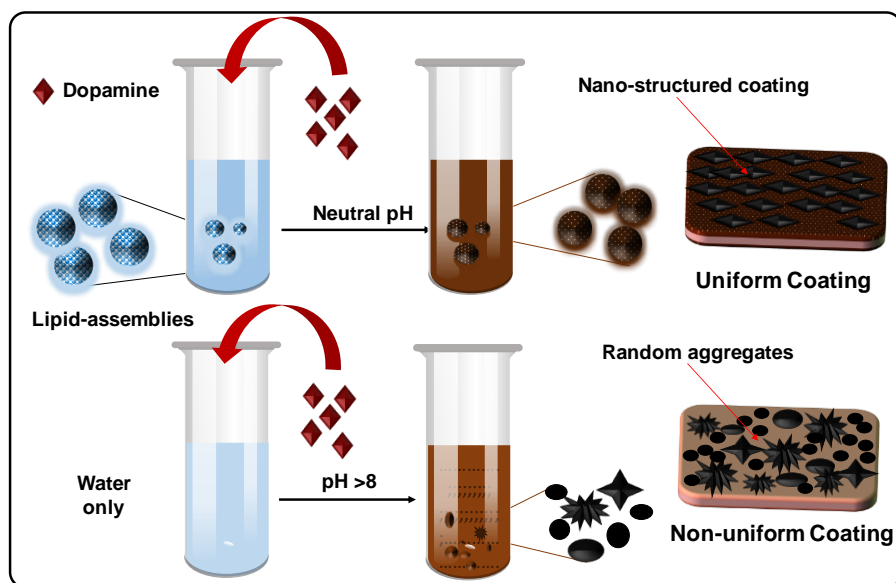
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**Abstract:**

Spontaneous oxidative polymerisation of dopamine at basic pH or in presence of oxidants leads to formation of polydopamine (PDA) that readily coats a variety of substrates and forms antifouling and antibacterial layer on them.<sup>1</sup> However, uncontrolled polymerization under these conditions results in aggregates of PDA and leads to non-uniform coatings with compromised antibacterial performance. It has been demonstrated that the morphology of PDA can be tuned by templated polymerisation.<sup>2,3</sup> In this talk, I will introduce the recent examples of templated polymerisation of PDA along with our recent efforts to obtain PDA using vesicular template derived from cationic lipids and its utility in creating various antibacterial surfaces.



**Figure:** Schematic representation of PDA formation using vesicular templates.

**References:**

1. J. Mater. Chem., 2012, 22, 21608–21612
2. Chem. Eur. J. 2016, 22, 4345 – 4350
3. Colloid Interface Sci. 2016, 469, 184–190

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**Bio-Sketch of Speaker**

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