Engineering the Surface States for Tuning the Bright Carbon Nanodots

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Carbon nanodots (C-dots) including graphene quantum dots have emerged as an exciting new material in recent years, owing to their bright photoluminescence, biocompatibility, low to nil toxicity, and low cost. C-dots have been regarded as a viable alternative to semiconductor-based quantum dots (QDs), attracting significant research attention on both fundamental and applied sciences. Different from QDs, the surface states on C-dots appear to play more significant role on their optical properties. In this talk, we will demonstrate the influence of surface states on C-dots' photoluminescence, as well as show their importance in imparting functionalities to C-dots for applications in sensing, lighting devices and biomedical research.

References:

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