

## Low laser emission energy in a polymer stabilized blue phase II

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Of the various topics related to blue phases (BPs), lasing phenomena at the photonic bandgap (PBG) edge is receiving particular attention. Liquid crystalline cubic BPs are divided into two types (body-centered BPI and simple cubic BPII). Here, we have fabricated a well-aligned polymer-stabilized BPII that is stable over a temperature range of approximately 20 °C. The lasing action based on the band edge mode occurs at the PBG of the cubic BPII's self-assembled periodicity. We have dramatically reduced the emission threshold energy of the laser action using the polymer-stabilized BPII. As a result, this study establishes the feasibility of using polymer-stabilized BPII in photonic crystal applications.

### References

1. K. Kim et al. J. Mater. Chem. C, 2015, DOI:10.1039/c5tc00420a