

Achieving saturated non-iridescent structural colors via island-like polypyrrole coating on SiO₂ microspheres and enhancing their stability through melt-curing strategy

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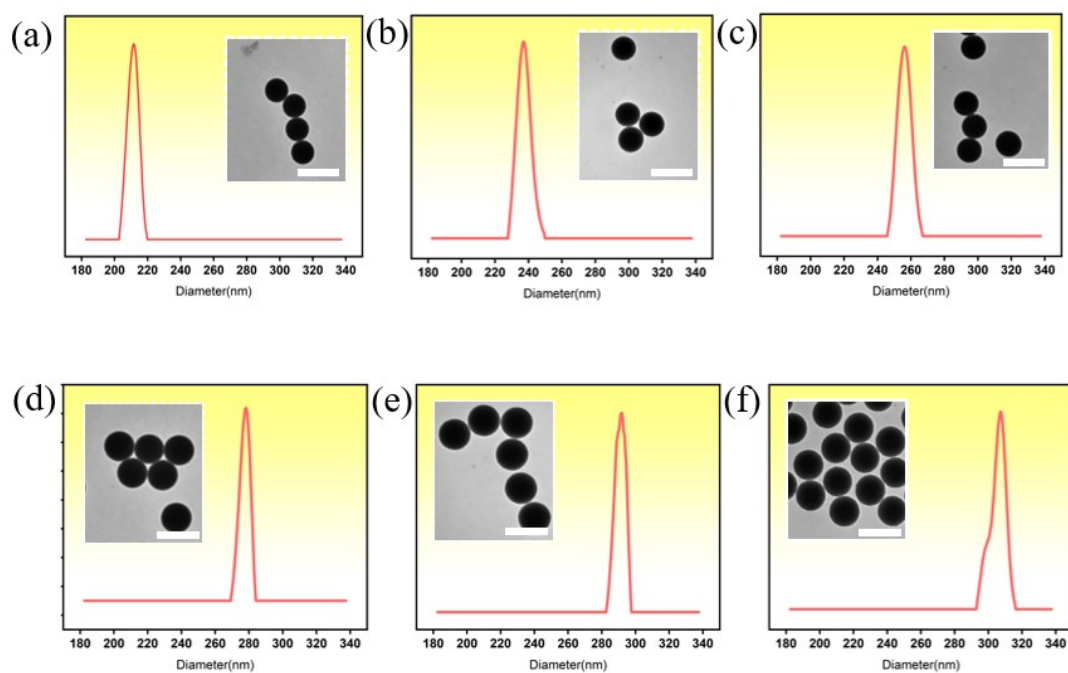


Figure S1. SiO₂ size distribution and TEM images (inset). (a) 210 nm (b) 234 nm (c) 256 nm (d) 272 nm (e) 289 nm (f) 306 nm. Scale bar: 500nm.

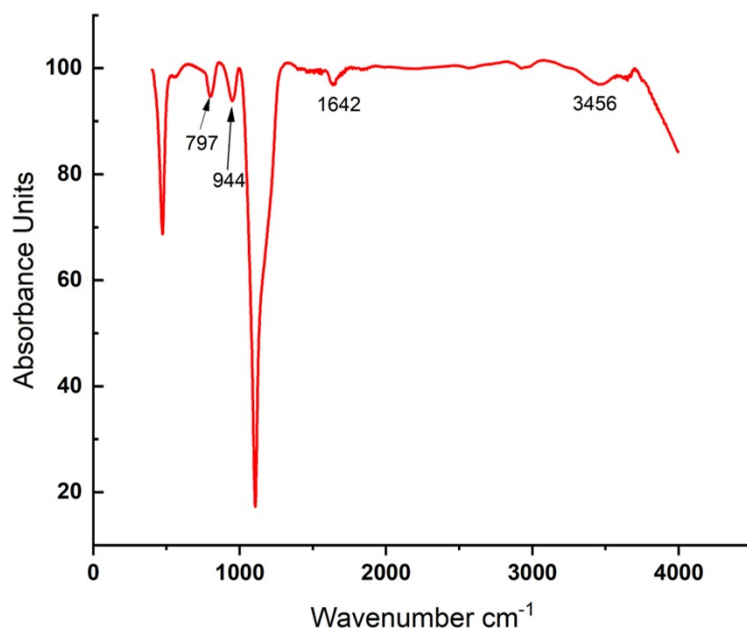


Figure S2. FTIR spectrum of SiO₂@PPy.



Figure S3. Dispersion liquids and powders of SiO₂ and SiO₂@PPy.

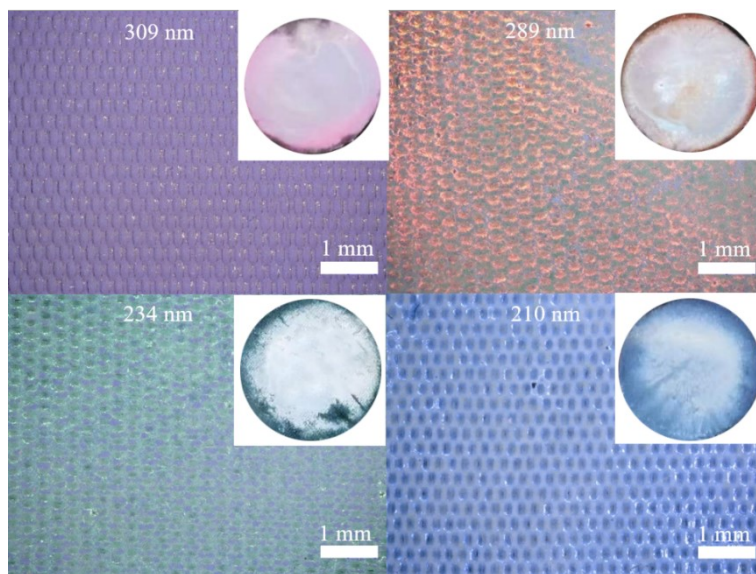


Figure S4. The structural colors formed by SiO₂ microspheres with different size.

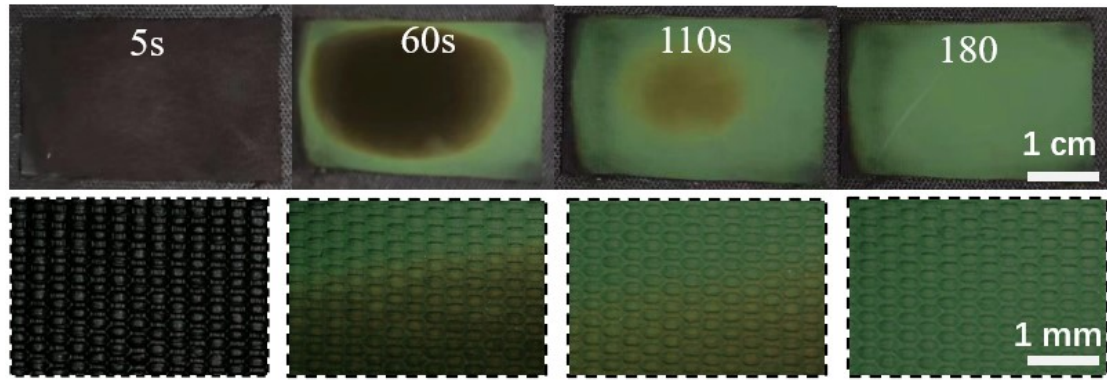


Figure S5. The process of $\text{SiO}_2@\text{PPy}$ microspheres forming structural color under heating conditions.

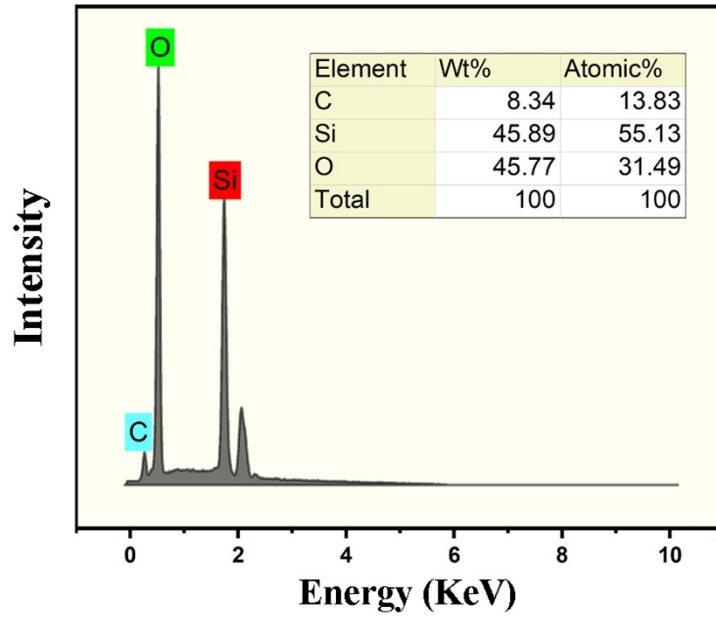


Figure S6. SEM-EDS image of SiO₂@PPy.

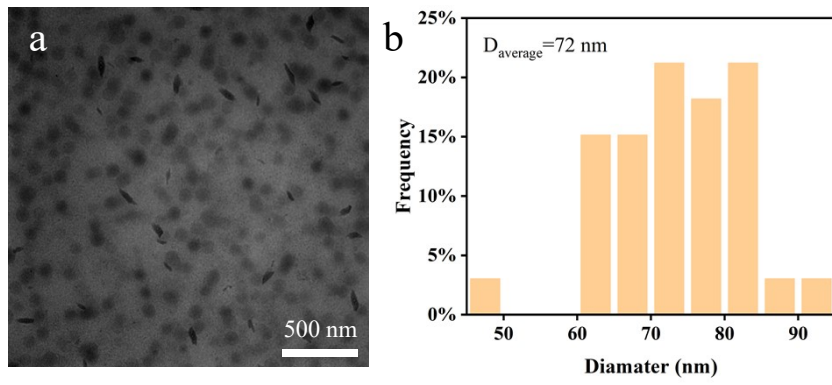


Figure S7. The TEM image (a) and size distribution (b) of P(MMA-BA) nanospheres.

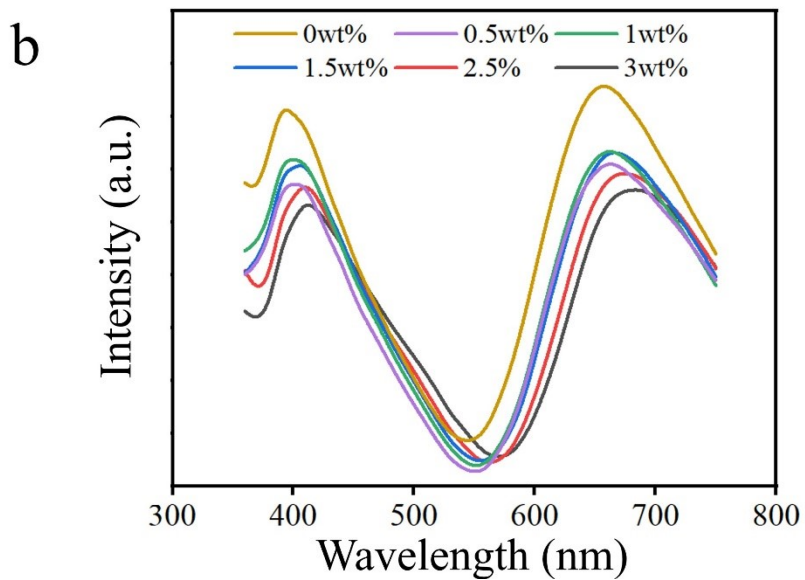
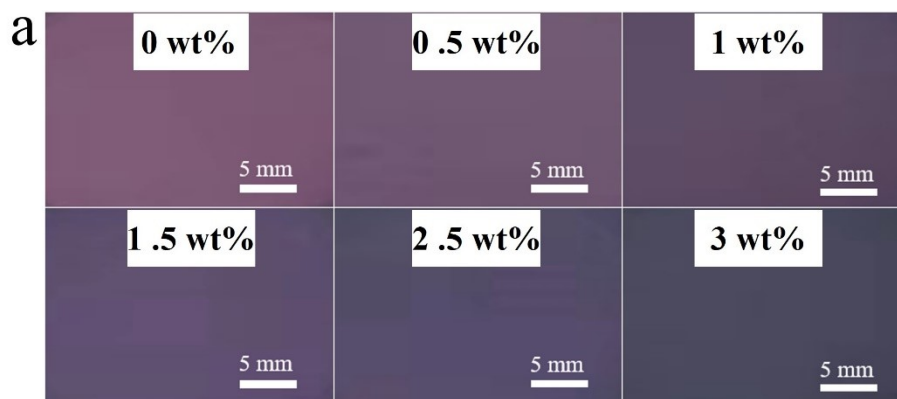


Figure S8. (a) Structure color images with different P (MMA-BA) contents, and corresponding reflection spectrum (b).

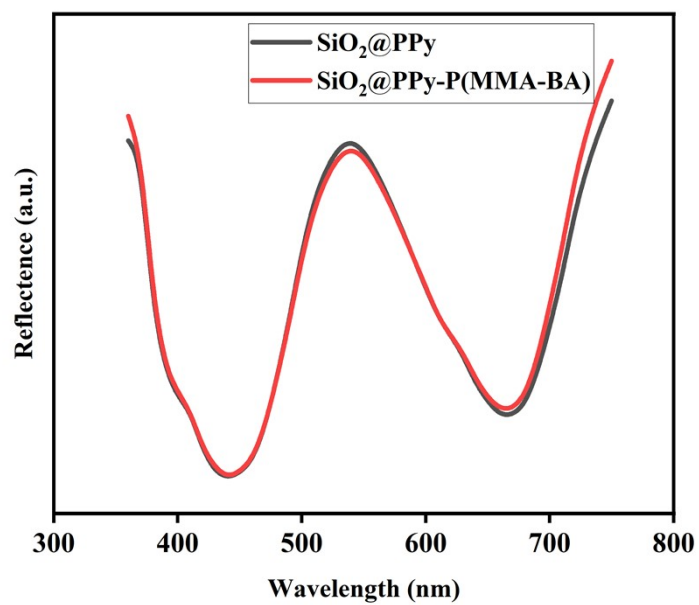


Figure S9. Reflection spectra of SiO₂@PPy and SiO₂@PPy-P(MMA-BA).