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Confocal Raman Study of Polypyrrole (PPy) single nanotube

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PPy nanotubes were synthesized through electrochemical polymerization method by using anodic aluminum oxide (Al₂O₃) nanoporous template. To discern the formation and structure of PPy nanotube, we used scanning electron microscope (SEM), transmission electron microscope (TEM) and atomic force microscope (AFM). Structural properties of PPy nanotube was examined by using Micro Raman spectra and Ultraviolet visible (UV/Vis) absorbance spectra experiment. We controlled that the doping level, the π - π^* transition peak, and bipolaron peaks of PPy nanotubes varied with synthetic condition and dissolving solvent of the Al₂O₃ nanoporous template. We studied Raman spectra of PPy single nanotube by using a home-made laser confocal microscope.

References

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