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Synthesis of copper nanoparticles in a fluoropolymer matrix by annealing in vacuum

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Highlights

- The copper-fluoropolymer composites are obtained by a combination of GJD and HWCVD.
- The annealing of thin Cu film covered with fluoropolymer leads to formation of NPs.
- The dilution of the localized surface plasmon resonance due to oxidation was analyzed.
- The plasmonic properties of the Cu NPs are saved in the fluoropolymer matrix.
- The fluoropolymer matrix prevents oxidation of metal NPs.

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