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Preparation of polymer coated Cu NPs and its applications for Low-Temperature Bonding

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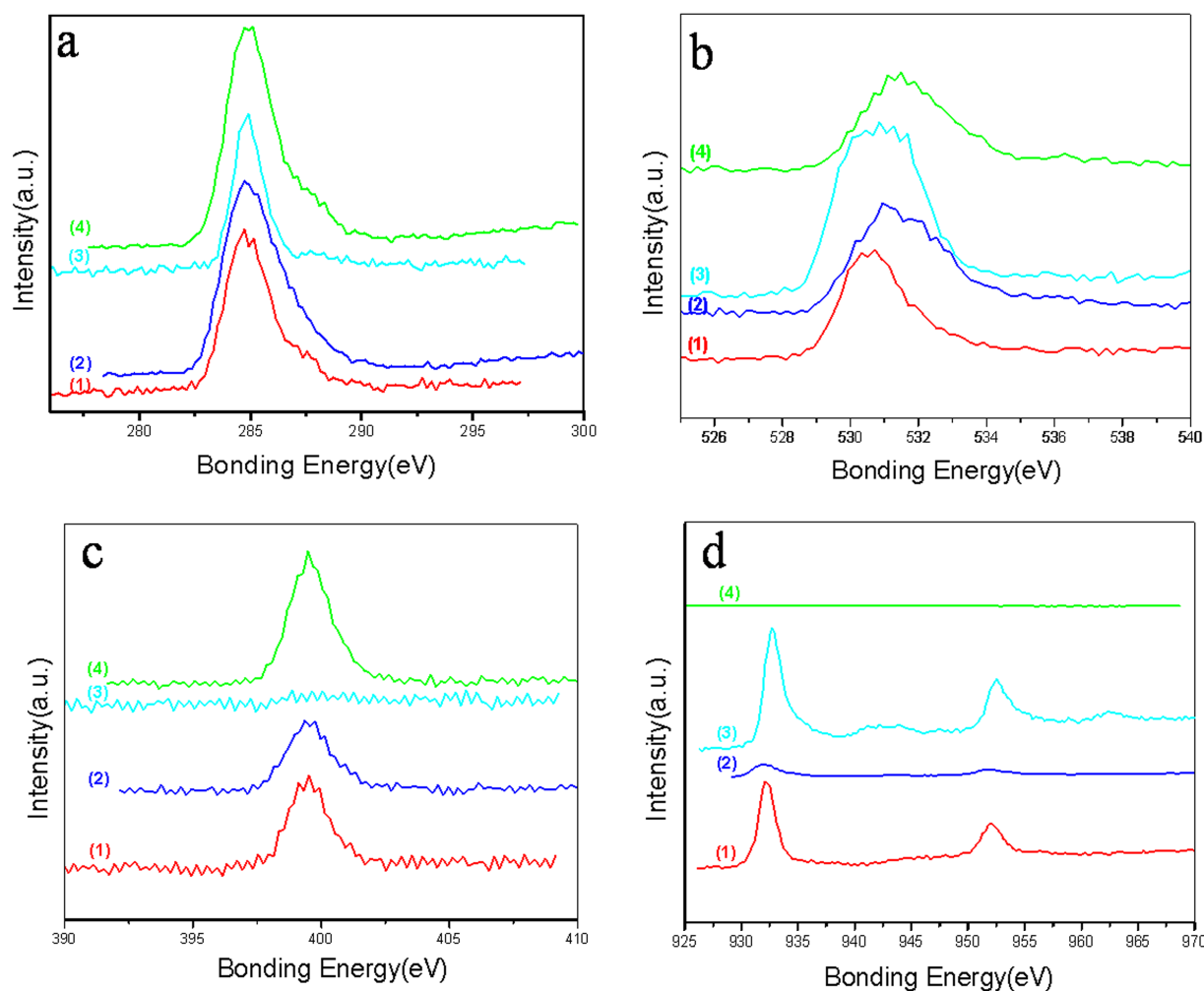


Fig.S1 X-ray photoelectron spectra of Cu NPs: the peaks from (a) C1s, (b) O1s, (c) N1s, and (d) Cu2P3. The different Samples of Cu NPs (from bottom to top): Sample (1) Cu NPs with thin organic shell, (2) Cu NPs with thick polymer coating, (3) Cu NPs with thin organic shell after heated at 250°C for 30mins, (4) Cu NPs with thick polymer coating after heated at 250°C for 30mins.

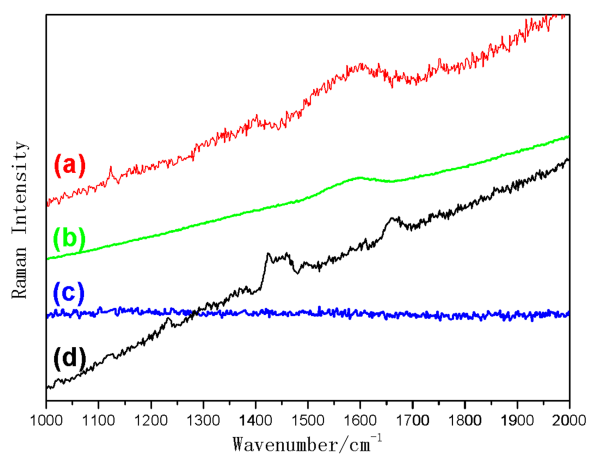


Fig.S2 Raman spectra of Cu NPs and PVP (a) Cu NPs with thin organic shell, (b) Cu NPs with thick polymer coating after heated at 250°C for 30mins, (c) Cu NPs with thin organic shell after heated at 250°C for 30mins, and (d) solid PVP.

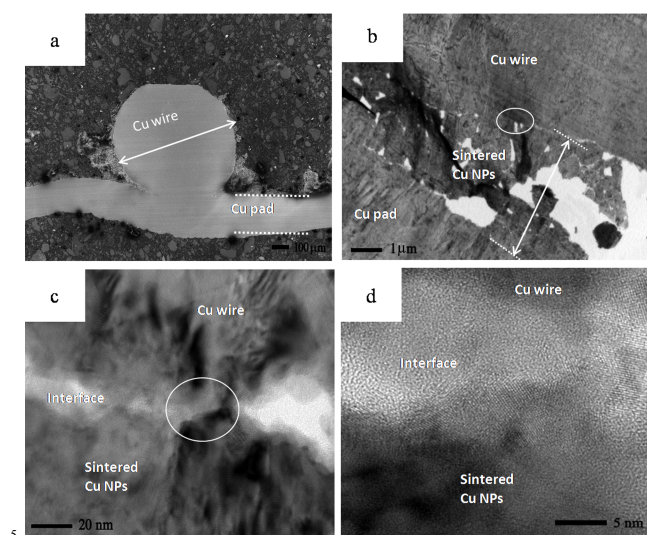


Fig.S3 SEM (a) and TEM, (b), (c), (d) images of the typical cross section of the joints using Cu NPs.