Electronic Supplementary Material (ESI) for RSC Advances.
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Figure SF1

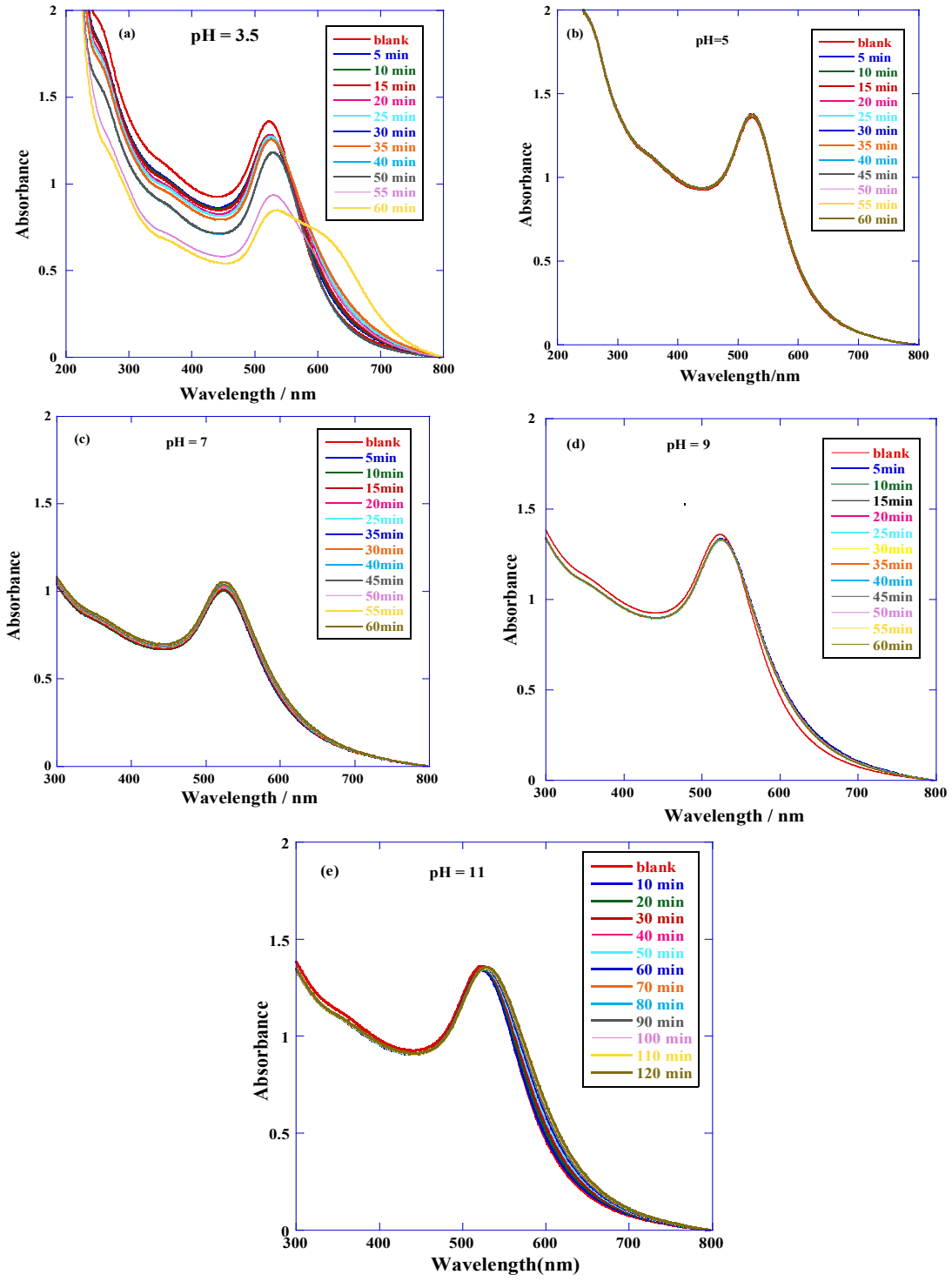

Figure SF1: UV-Vis scans of a reaction of citrate capped AuNPs under the effect of reaction time (in minutes) at different pH values (a) pH 3.5 (b) pH 5 (c) pH 7 (d) pH 9 and (e) pH 11

Figure SF2

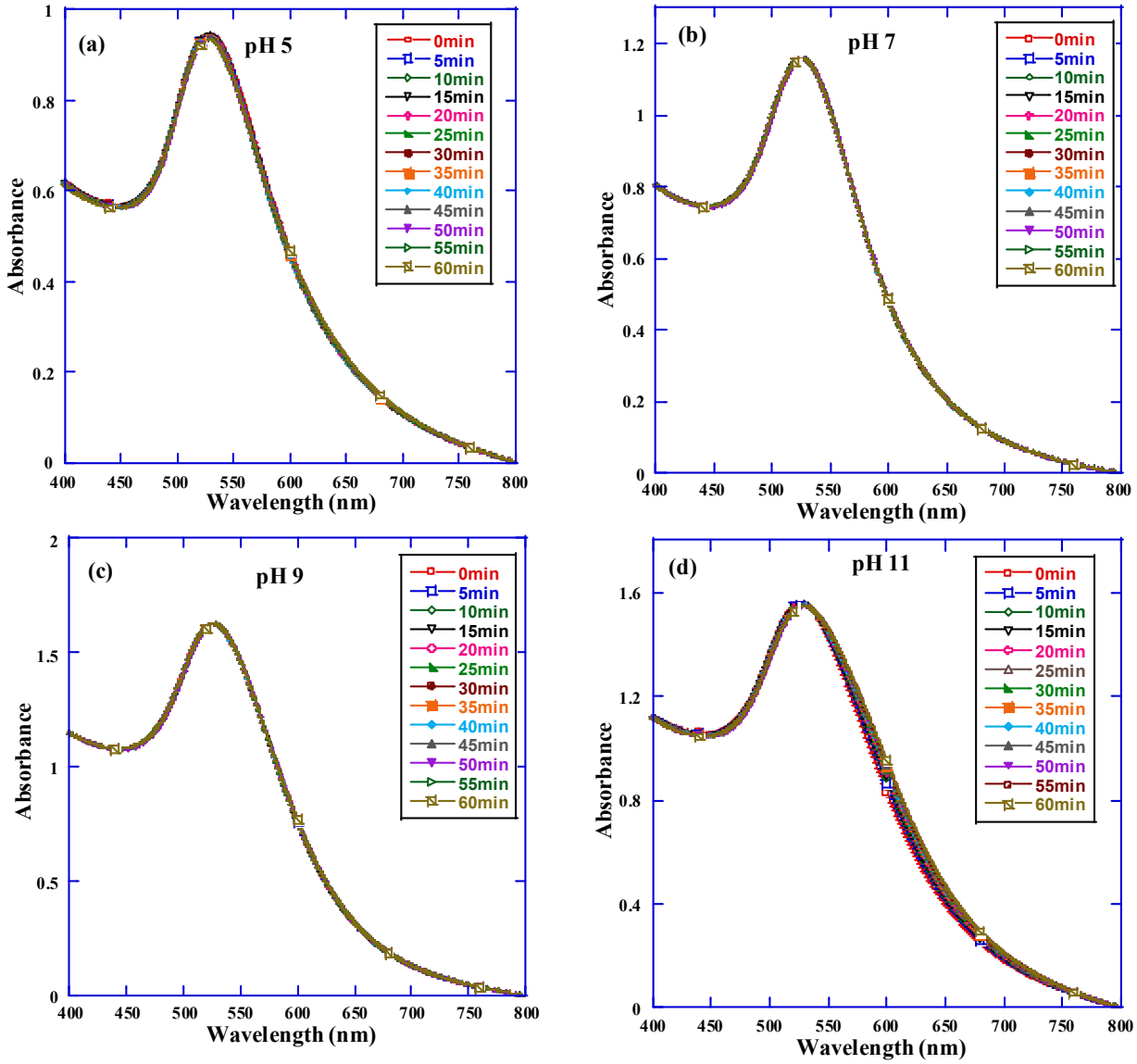

Figure SF2: UV-Vis scans of a reaction of Glu with citrate capped AuNPs under the effect of reaction time (in minutes) at different pH values (a) pH 5 (b) pH 7 (c) pH 9 and (d) pH 11

Figure SF3

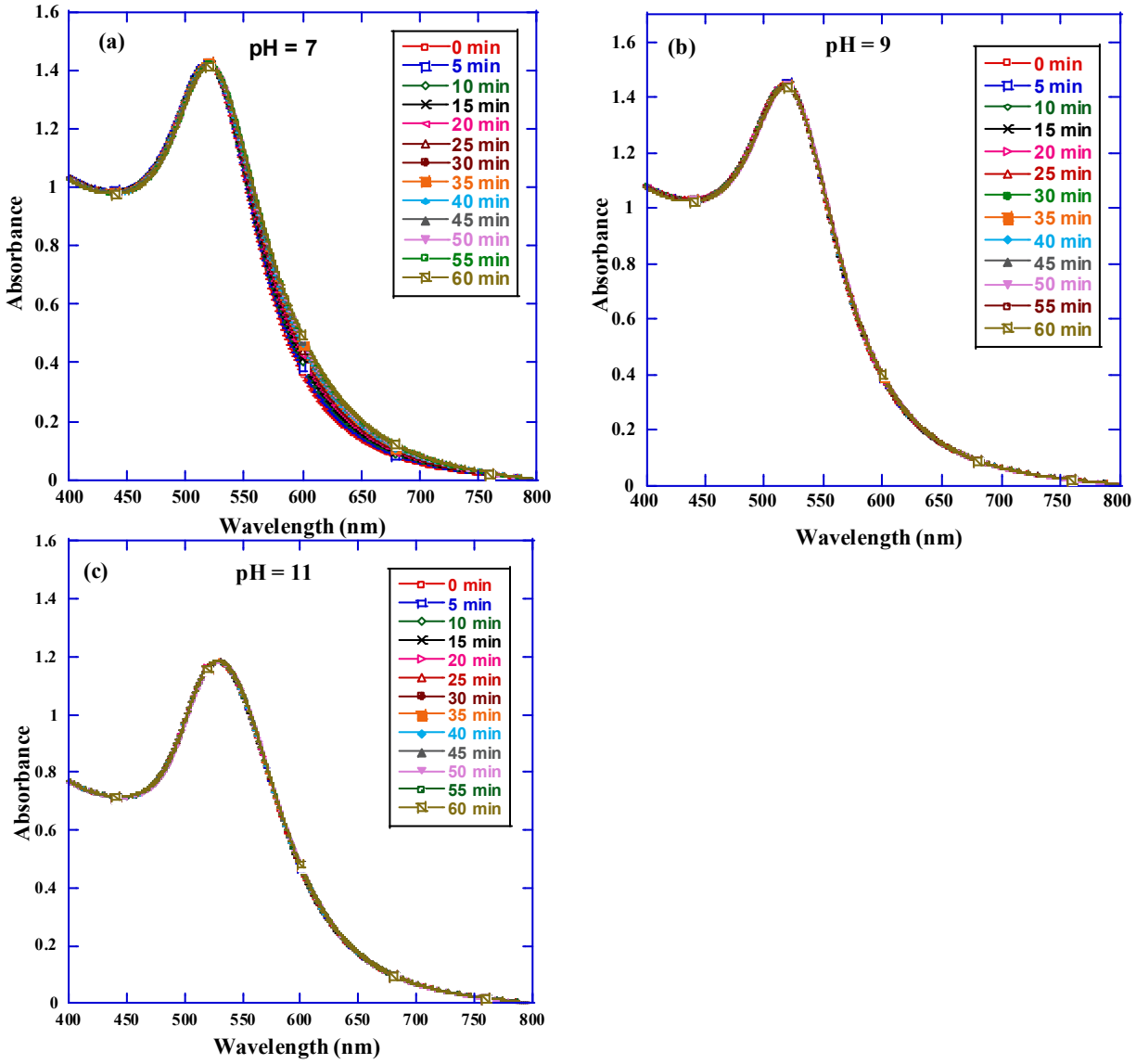

Figure SF3: UV-Vis scans of a reaction of Arg with citrate capped AuNPs under the effect of reaction time (in minutes) at different pH values (a) pH 7 (b) pH 9 and (c) pH 11

Figure SF4

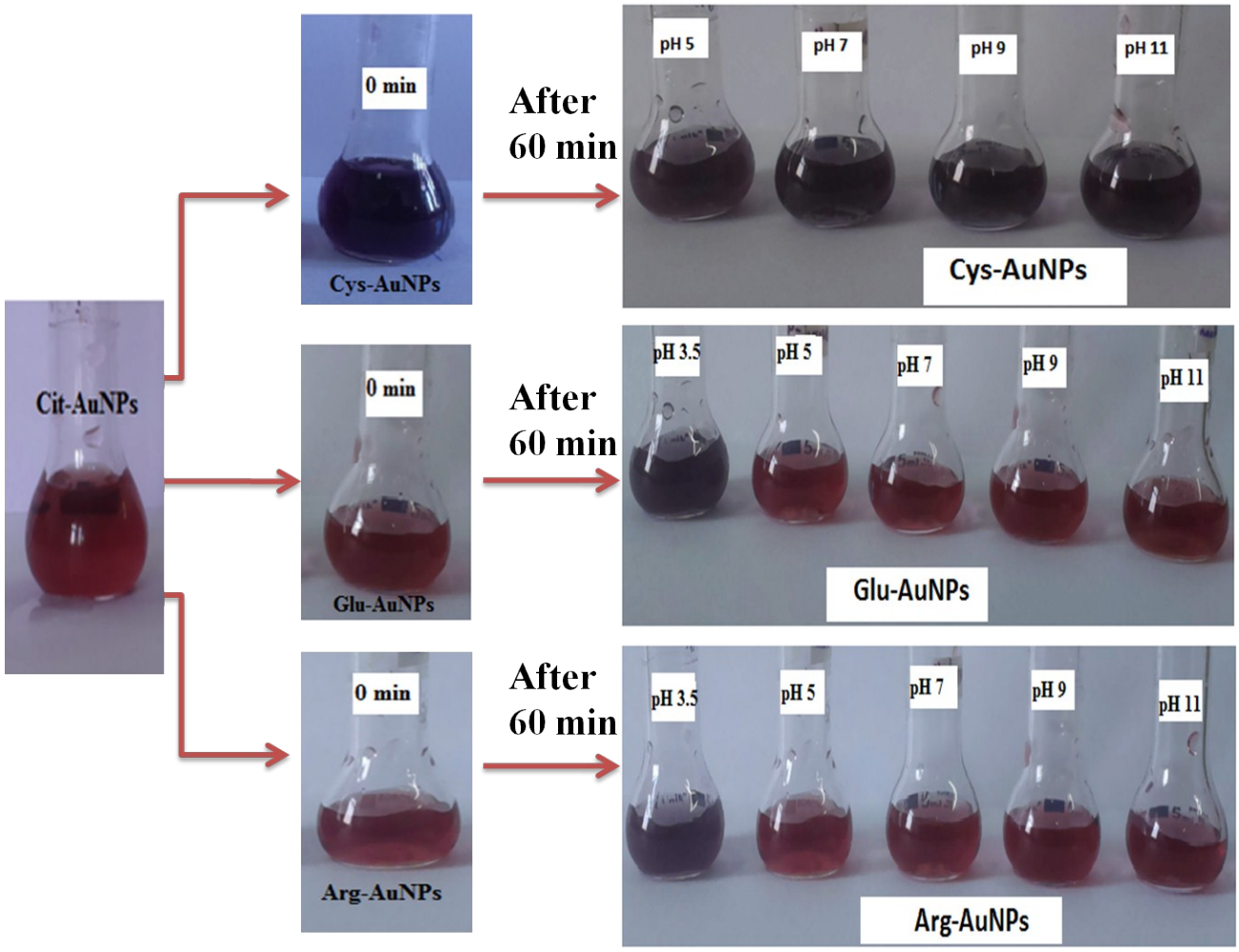

Figure SF4: Photographs of reaction mixtures of Citrate capped AuNPs, Cys-AuNPs, Glu-AuNPs, and Arg-AuNPs at 0 minutes and 60 minutes of the reaction at different pH values 3.5, 5, 7, 9, and 11. (The color of the reaction mixtures at various pH values remains same at 0 minutes of the mixing.)

Figure SF5

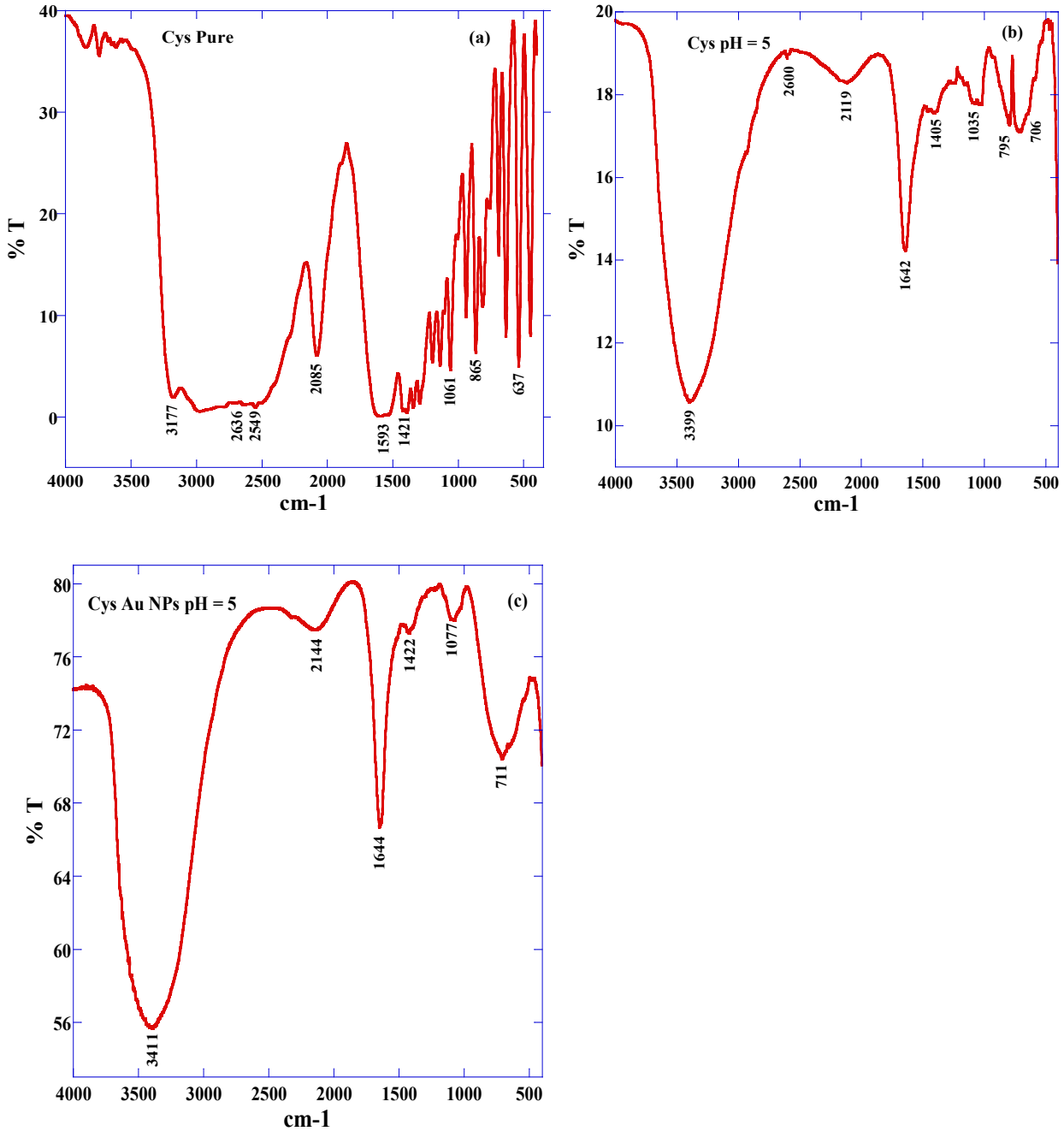

Figure SF5: FT-IR plots of (a) Pure Cysteine (b) Cysteine at pH = 5 and (c) Cys-AuNPs at pH = 5.

Figure SF6

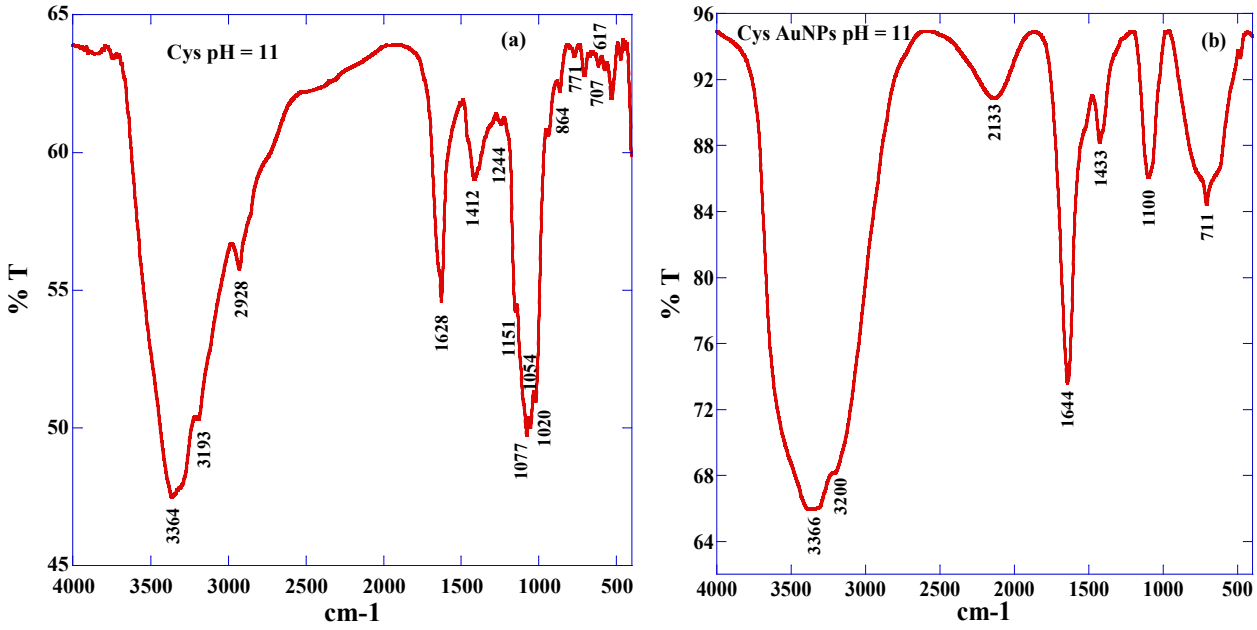

Figure SF6: FT-IR plots of (a) Cysteine at pH = 11 and (c) Cys-AuNPs at pH = 11.

Figure SF7

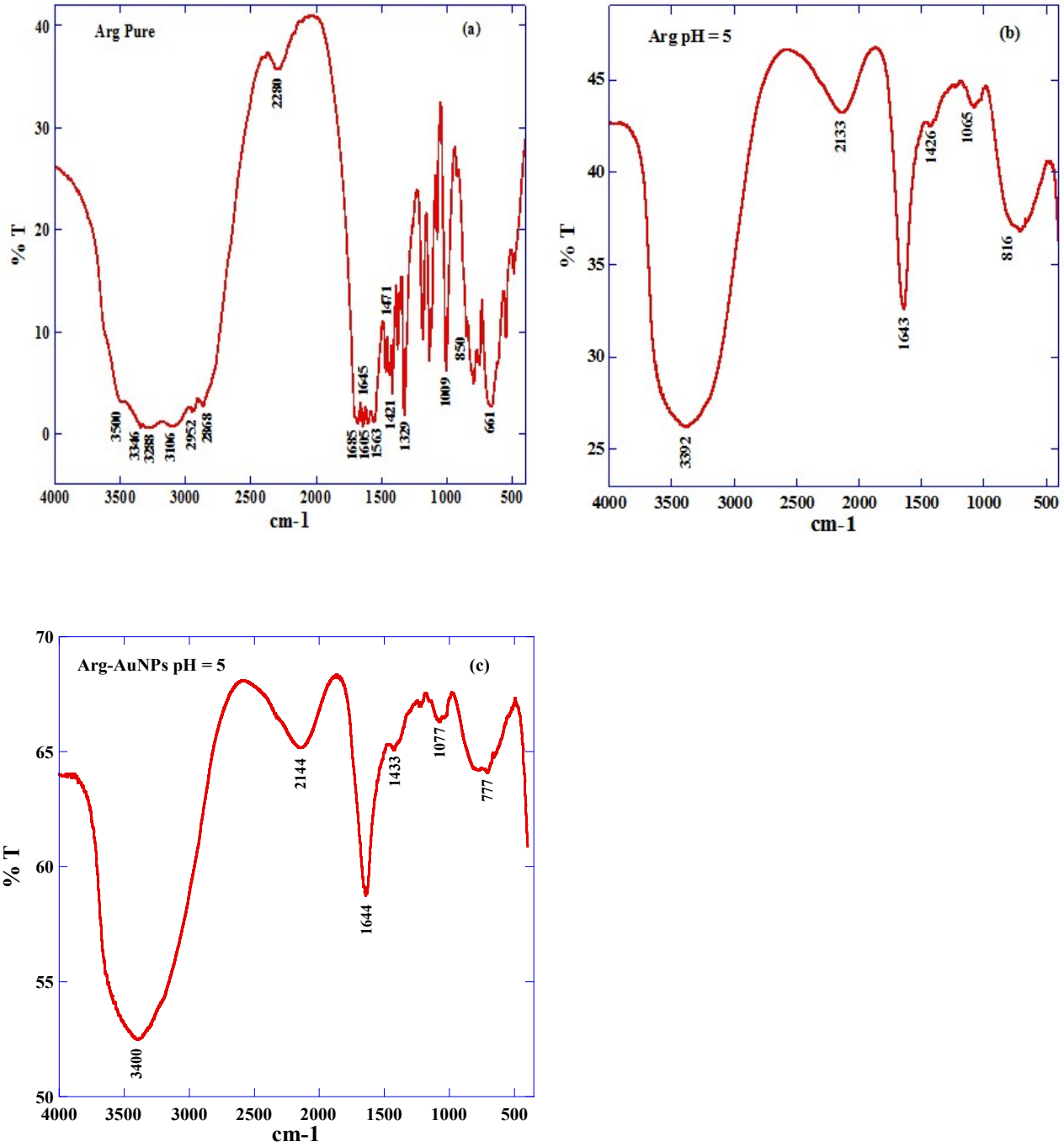

Figure SF7: FT-IR plots of (a) Pure Arginine (b) Arginine at pH = 5 and (c) Arg-AuNPs at pH = 5.

Figure SF8

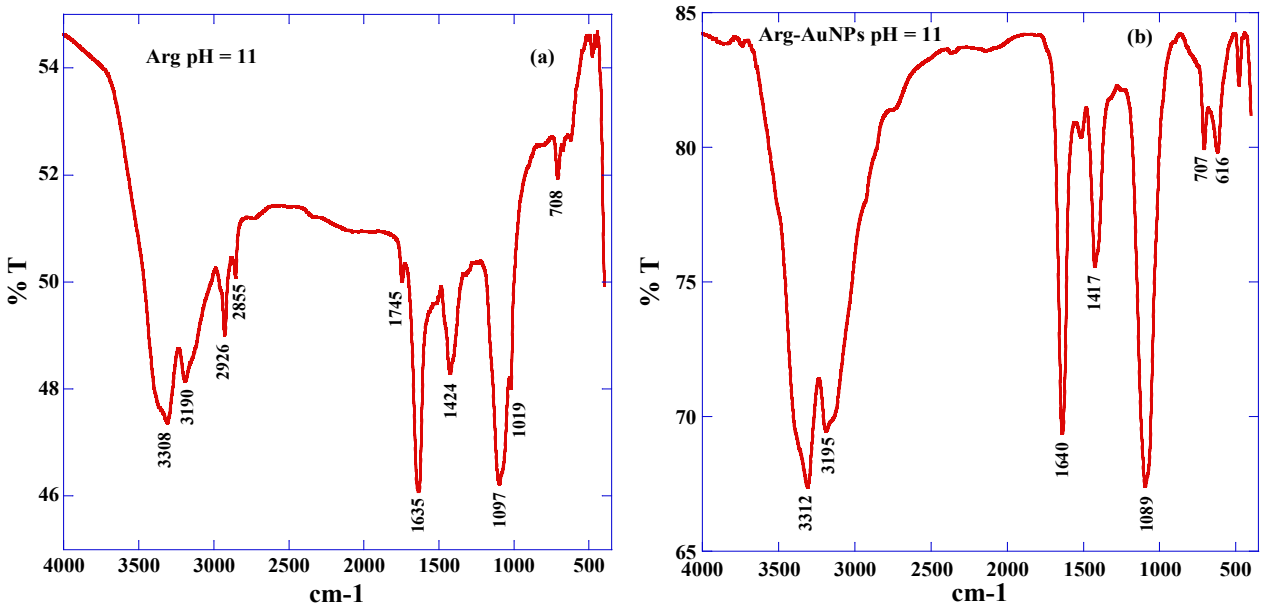

Figure SF8: FT-IR plots of (a) Arginine at pH = 11 and (c) Arg-AuNPs at pH = 11

Figure SF9

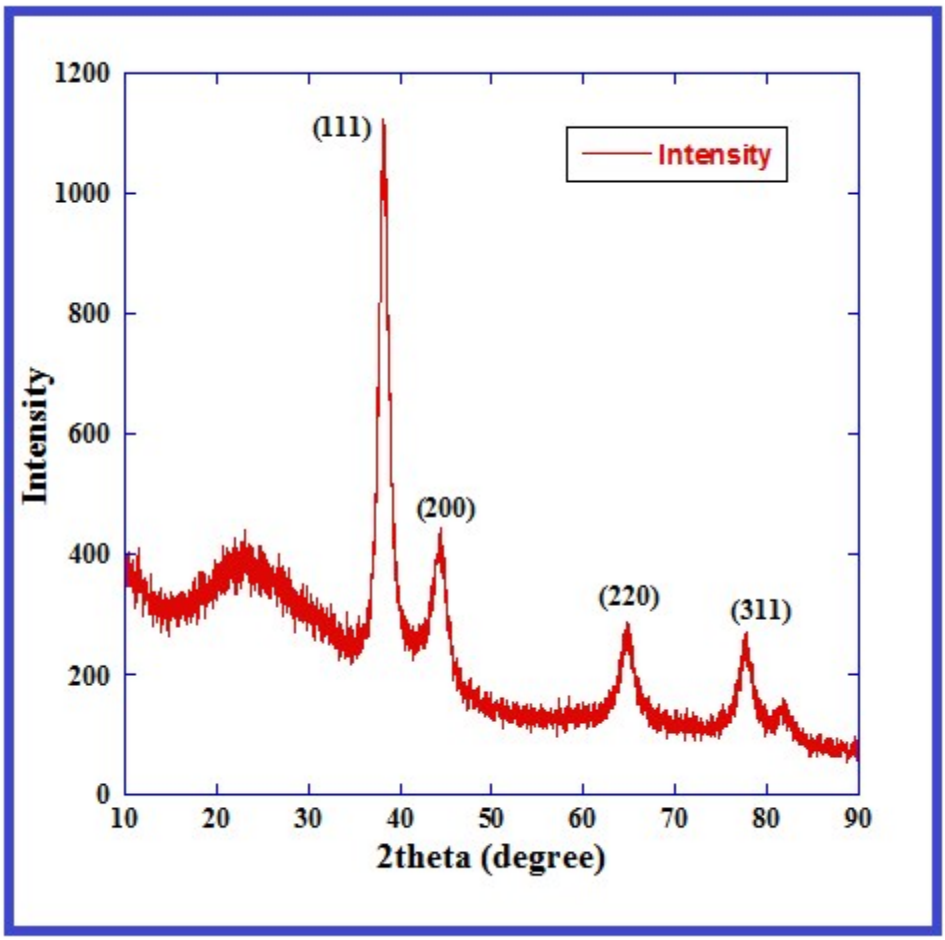

Figure SF9: X-ray Diffraction pattern of Cysteine coated Au colloidal solution at pH 11