Supplementary Materials: Synthesis and Structural Characterization of Silver Nanoparticles Stabilized with 3-Mercapto-1-Propansulfonate and 1-Thioglucose Mixed Thiols for Antibacterial Applications

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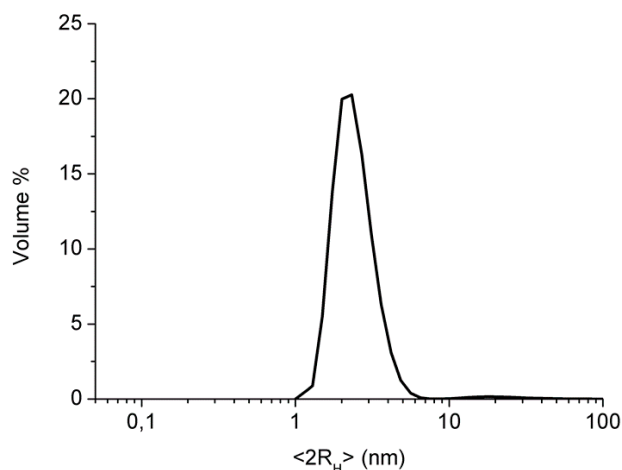

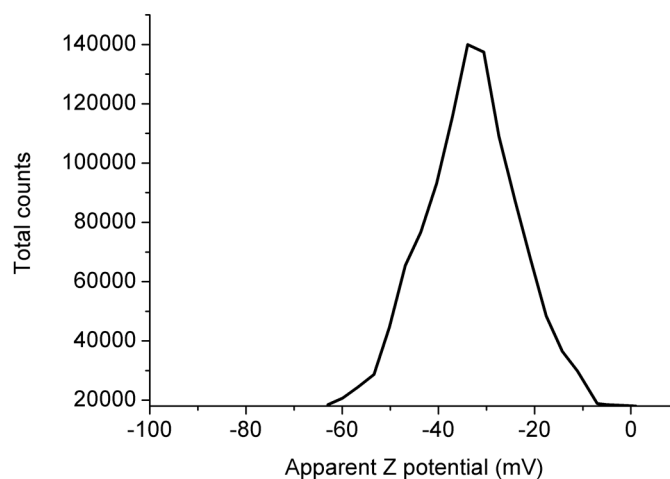**Figure S1.** Dynamic Light Scattering of AgNPs-3MPS-TG1.

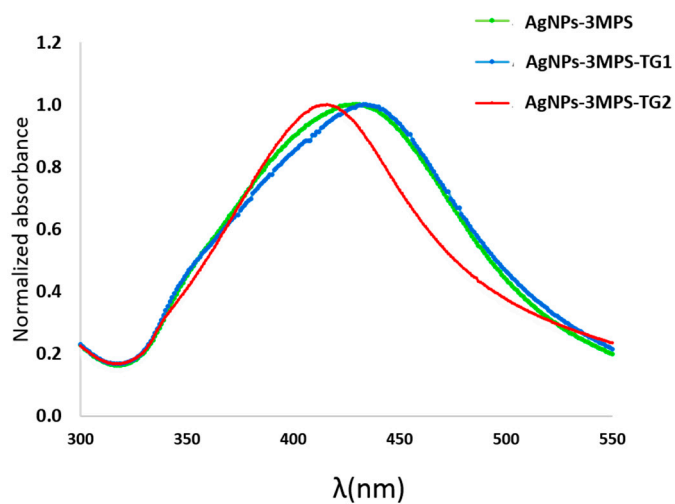**Figure S2.** Z potential of AgNPs-3MPS-TG1.

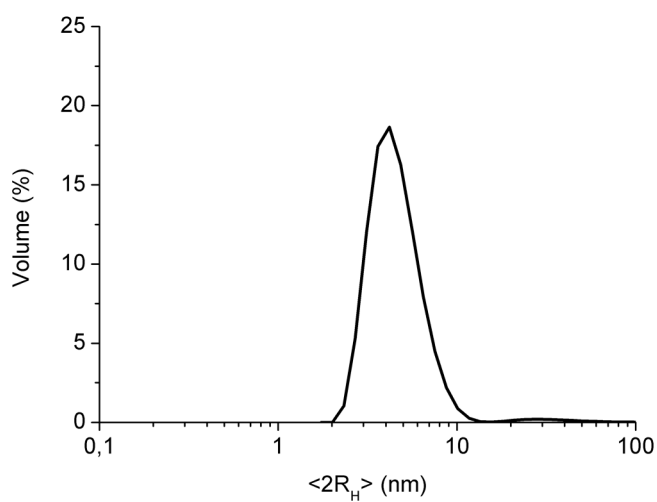**Figure S3.** Uv-Vis Normalized spetra of AgNPs samples.

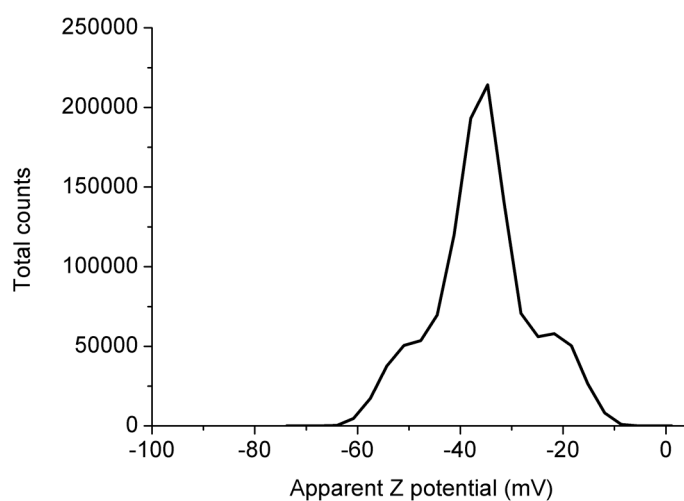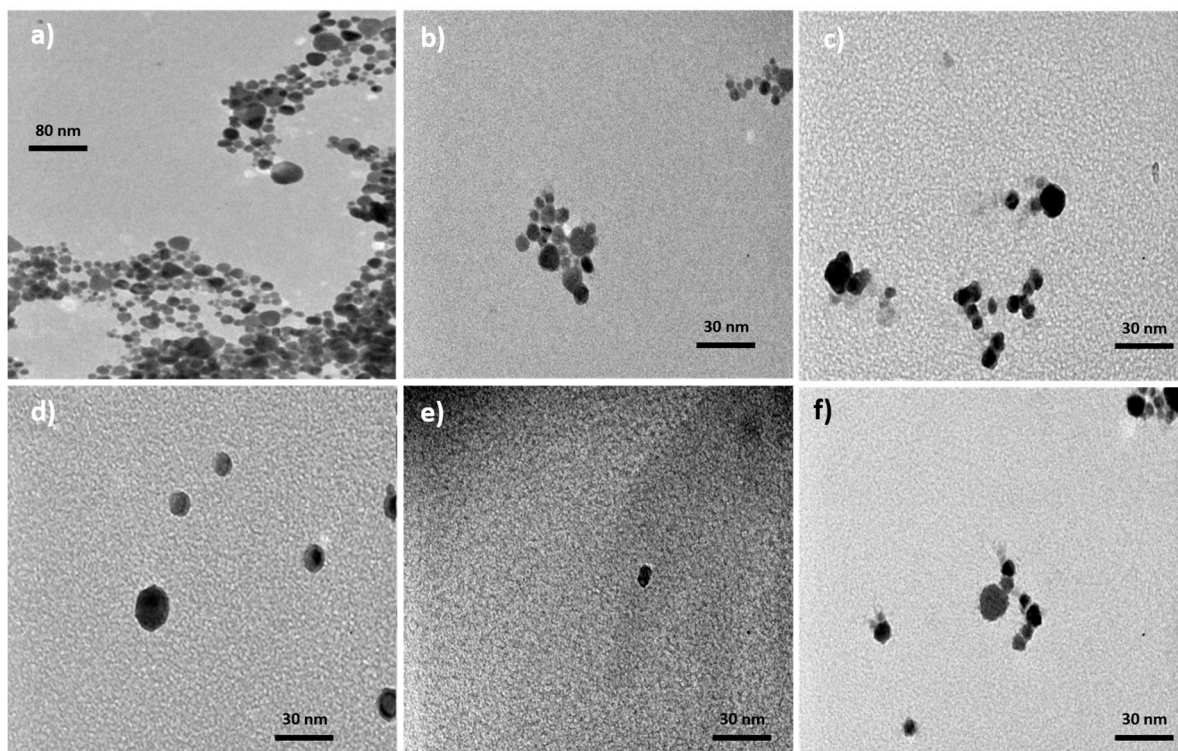**Figure S4.** Dynamic Light Scattering of AgNPs-3MPS-TG2.

Figure S5. Z potential of AgNPs-3MPS-TG2.

Figure S6. Trasmission Electron Microscopy (TEM) Images. TEM pictures and average size corresponding to all three samples: AgNPs-3MPS: 19 ± 3 (Image **a–d**); AgNPs-3MPS-TG1: 15 ± 2 (Image **b–e**); AgNPs-3MPS-TG2: 13 ± 1(Image **c–f**).

Table S1. XPS data collected at S2p and Ag3d core levels on samples AgNPs-3MPS and AgNPs-TG-3MPS.

Sample	Signal *	BE (eV)	FWHM	Atomic (%)	N_i/N_{tot}	Assignments
	$S2p_{3/2}$					
	1	161.33	1.41	45.2	0.8	RS-Ag
AgNPs-3MPS	3	169.06	"	54.8	1	SO^-Na^+
	$Ag3d_{5/2}$					
	1	368.2	0.87	70.2	1	Ag(0)
	2	368.72	"	29.8	0.42	Ag(δ^+)
	$S2p_{3/2}$					
	1	161.53	1.7	42.4	0.7	RS-Ag
AgNPs-3MPS-TG1	3	168.31	"	57.6	1	SO^-Na^+
	$Ag3d_{5/2}$					
	1	368.11	0.91	65.9	1	Ag(0)
	2	368.67	"	34.1	0.52	Ag(δ^+)

* A spin-orbit splitting of 1.2 eV and a branching ratio ($S2p_{3/2}/S2p_{1/2}$) of 2 were used for the sulfur doublets, while a branching ratio ($Ag3d_{5/2}/Ag3d_{3/2}$) of 1.5 and a spin-orbit splitting of 6 eV were used for silver.

Table S2: XPS data of O1s signal.

Sample	O1s	BE(eV)	FWHM	Assignment
AgNPs-3MPS	1	530.35	1.88	TiO_2
	2	532.25	"	O=C, $-SO_3-$
	3	533.6	"	C–OH
AgNPs-3MPS-TG1	1	530.32	1.7	TiO_2
	2	532.03	"	O=C, $-SO_3-$
	3	533.5	"	C–OH
AgNPs-3MPS-TG2	1	530.5	1.72	TiO_2
	2	532.29	"	O=C, $-SO_3-$
	3	533.73	"	C–OH