Supporting Information

Self-Assembly of a dithiocarbamate calix[4]arene on Ag nanoparticles and its application in the fabrication of surface-enhanced Raman scattering based nanosensors

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Table S1. Experimental IR, Raman and SERS bands (cm^{-1}) and the most probable bands assignment of DTCX.

Infrared KBr	Raman powder	SERS on AgCT NPs	SERS on AgHX NPs	Assignment
		130w	130w	Raman scattering by nanostructured Ag
		150w	150w	
		165w	165w	
		189s	189s	νAg-S
			245s	νAg-Cl
279w				Skeletal deformations
301w				
	375w			
	393w			
	427w	427m	427m	
441m				
487vs				
	505w			tert-butyl deformation+ ρCH
	545w	535w	539w	
555m				
583w	572vs	574s	571s	Phenyl deformation + δCOC
634m	638w			
678s		667m	664m	
	699m	703m	702s	
	733w			
785m				
807w	810s			
		845w	849w	ρCH$_3$ + ρCH$_2$
872s	863w			ρ_{AR}CH
	906m			ρCH$_2$
918m				ρCH$_2$
		931m	932m	ν C-S

965s	963w	966s	964vs	ν C-S
1035w	1027w	1022vs	1023s	ν C=S
		1075w	1075w	$\omega CH_2 + \nu CO$
1101m				τCH_2
1127m	1124s	1123w	1142w	ωCH_2
	1167w			$\omega CH_2 + \nu_{AR}CO$
1202s	1198m	1200w	1195w	$\omega CH_2 + \nu_{AR}CO$
		1258m	1259m	δCSS
1278m				$\delta_{AR}CH + \omega CH_2 + \nu_{AR}CO$
1303m	1300m	1303s	1304s	ωCH_2
1348m				ωCH_2
1367m				$\delta CH + \nu_{AR}CC$
	1440m	1441m	1440m	δCH
1466m	1459m			δCH
1485s				δCH
1522m		1514m	1524m	$\nu C=N^+$
1606w	1601w	1601vw	1602vw	$\nu_{AR}C=C$

ν: stretching, δ: deformation, ω: wagging, τ: twisting; ρ: rocking. AR: aromatic

Intensities: vw, very weak; w, weak; m, medium; s, strong; vs, very strong.