

Supplementary data

Green synthesized Ag nanoparticles for bio-sensing and photocatalytic applications

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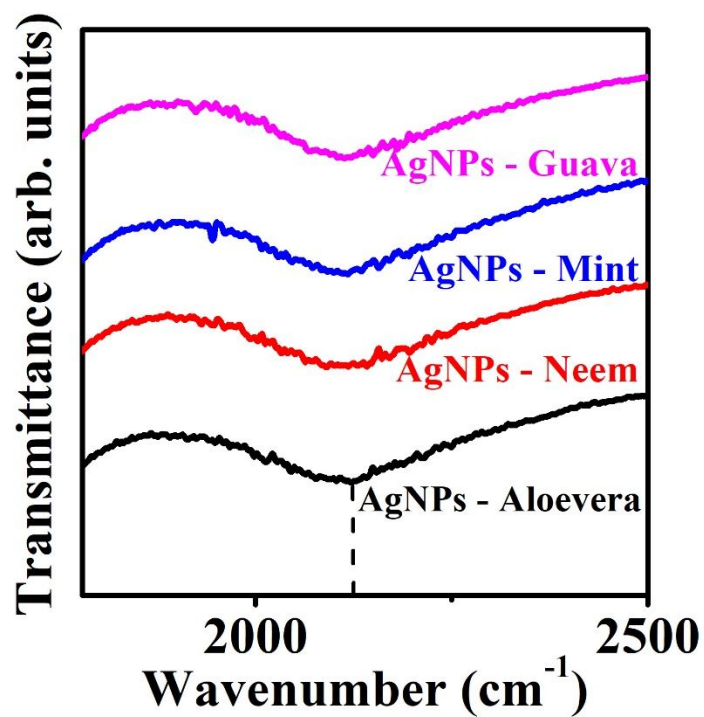


Figure S1. Enlarged view of the FTIR peak at 2110 cm⁻¹ of Ag NPs prepared using different leaf extracts.

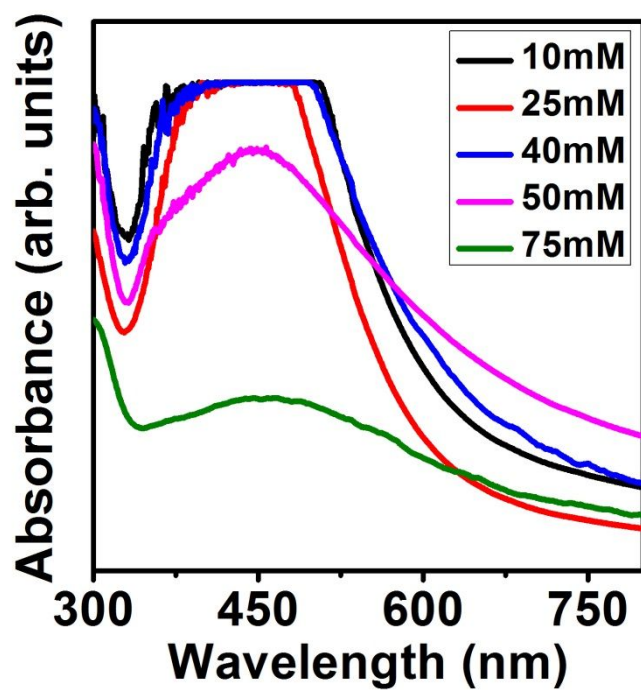


Figure S2. Absorbance spectra of Ag NPs prepared using different AgNO₃ concentration.

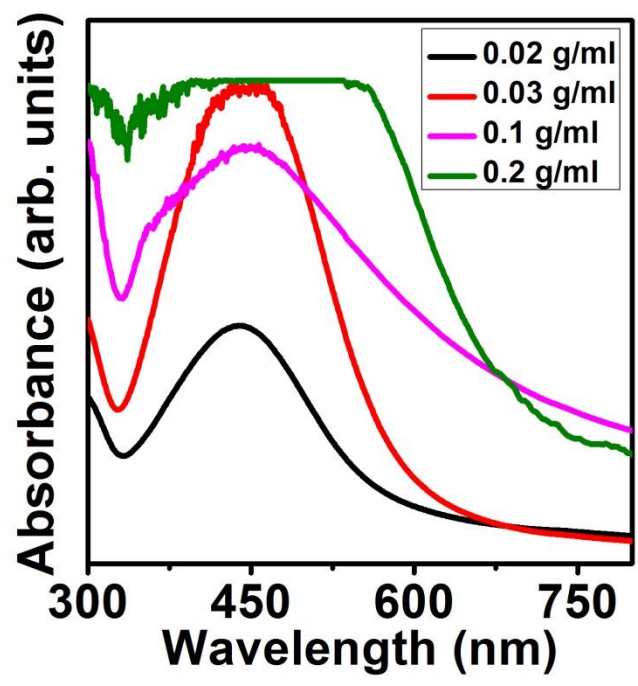


Figure S3. Absorbance spectra of Ag NPs prepared using different leaf extract concentration

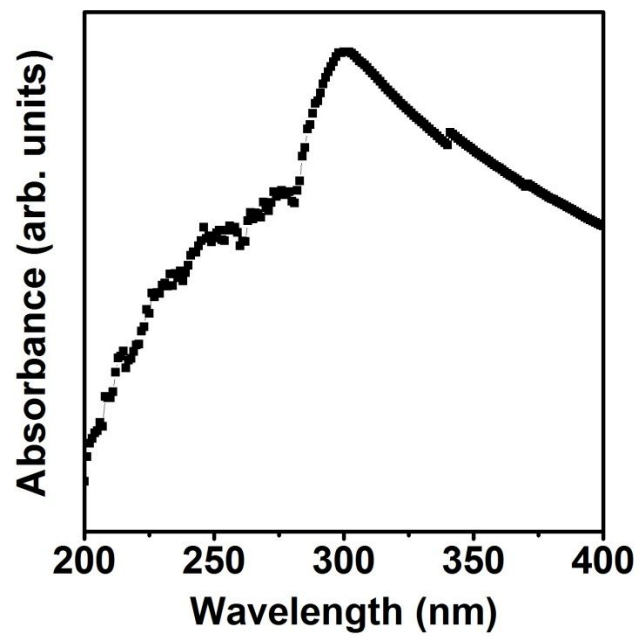


Figure S4. Absorbance spectra of 0.5 mM mancozeb solution coated on glass substrate.

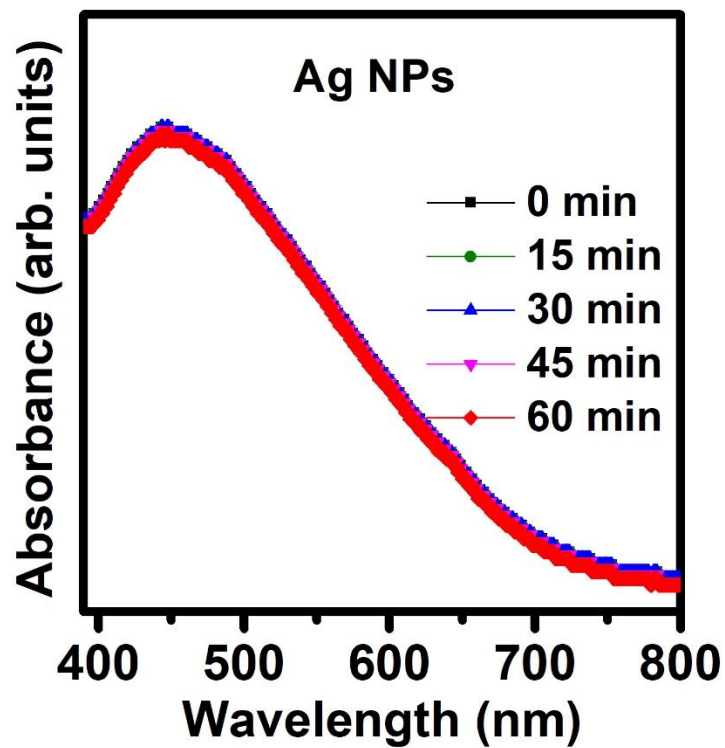


Figure S5. Absorbance spectra of pure Ag NPs for different times under UV – visible illumination.

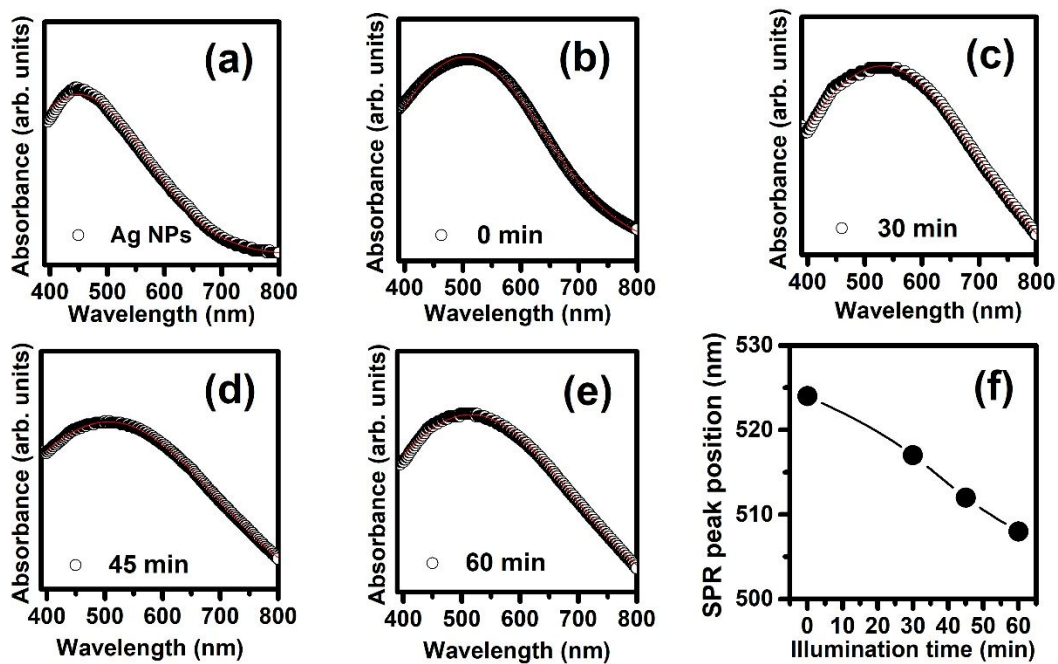


Figure S6. (a) Absorbance spectrum of pure Ag NPs and (b) – (f) Absorbance spectra of mancozeb coated Ag NPs at different illumination times.

GCMS Analysis

Table S1. Neem leaf extract

Peak #	R.Time	Area	Area %	Height	Height %	Name	Base m/z
1	11.559	4831	0.66	4079	1.97	.ALPHA.-CYCLOGERANIOL	121.15
2	11.917	36055	4.90	7785	3.76	NEOPENTYL FORMATE	57.05
3	11.992	21275	2.89	5454	2.63	CARATHANE	69.05
4	12.476	5357	0.73	3697	1.79	2-TERT-BUTYL-4-(1,1,3,3-TETRAMETHYLBUTYL)PHENOL	191.15
5	12.803	4002	0.54	3150	1.52	5-Ethoxycarbonyl-4-methyloxazole	127.05
6	13.273	15874	2.16	14812	7.15	(+)-.BETA.-COSTAL	121.10
7	16.425	51501	7.00	26888	12.99	(-)-CIS-PINAN	68.05
8	21.971	328707	44.65	85170	41.13	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	71.05
9	35.931	35589	4.83	11975	5.78	1-(2-HYDROXYETHOXY)TRIDECANE	57.05
10	39.189	76386	10.38	18446	8.91	1-BROMO-8-METHYLHEXACOSANE	57.10
11	42.283	23922	3.25	5297	2.56	ELEPHANTOPIN	69.10
12	43.874	30810	4.18	6438	3.11	3-FURYL METHYL CHLORIDE	69.05
13	44.417	20744	2.82	3074	1.48	ETHANONE, 2-(4-CHLOROPHENYL)-1-CYCLOHEXYL-2-(1-PIPERIDINYL)-	208.05
14	49.166	23200	3.15	3392	1.64	2-CYCLOPENTEN-1-ONE, 3-(3-HYDROXY-1-OCTENYL)-, [S-(E)]-	208.00
15	49.317	17851	2.42	1060	0.51	BENZOFLEX	207.00
16	49.500	17229	2.34	2738	1.32	PENTANENITRILE, 3-(HYDROXYMETHYL)-	55.00
17	49.676	22899	3.11	3603	1.74	6-[(2-OXOCYCLOHEXYL)METHYL]-4-OXA-5-AZASPIRO[2.4]HEPT-5-ENE	55.05
			100.00		100.00		

Table S2. Aloe vera leaf extract

Peak#	R.Time	Area	Area%	Height	Height%	Name	Base m/z
1	8.166	40932	2.96	9659	1.81	ALPHA.-DECENE	55.05
2	10.991	145145	10.50	50059	9.39	.alpha.-Tridecene	55.05
3	11.092	49951	3.61	6960	1.31	(S)-4-IODO-1,2-EPOXYBUTANE	57.05
4	11.736	35893	2.60	11431	2.14	Alanine, N-methyl-n-butoxycarbonyl-, hexadecyl ester	158.05
5	11.817	15358	1.11	6381	1.20	PENTADECANE	57.05
6	11.867	14173	1.02	6930	1.30	3-HYDROXY-4,4-DIMETHYLDIHYDRO(2-13C)FURAN-2-ONE	71.05
7	11.901	19300	1.40	9901	1.86	But-3-en-1-yl 2-methylbutanoate	57.05
8	12.167	14134	1.02	7205	1.35	OCTANE	71.05
9	12.227	43320	3.13	23803	4.47	HEXANE, 3,3-DIMETHYL-	71.05
10	12.308	20327	1.47	3504	0.66	OCTANE	71.10
11	12.484	107959	7.81	67043	12.58	2,4-DITERT-BUTYLPHENOL	191.10
12	12.801	24407	1.77	9697	1.82	NONANE, 1-IODO-	127.10
13	13.511	119993	8.68	66951	12.56	1-HEXADECENE	55.05
14	13.608	20023	1.45	9473	1.78	OCTADECYL FLUORIDE	57.05
15	13.674	26672	1.93	5356	1.00	2-DECYLOXYETHANOL	71.00
16	14.685	14876	1.08	9725	1.82	1-(2-HYDROXYETHOXY)TRIDECANE	85.10
17	14.747	45712	3.31	27817	5.22	HEXANE, 3,3-DIMETHYL-	57.05
18	15.240	16281	1.18	8482	1.59	2-DECYLOXYETHANOL	71.10
19	15.846	61768	4.47	31009	5.82	1-HEPTADECENE	55.05
20	16.426	99485	7.19	45801	8.59	NEOPHYTADIENE	57.05
21	17.075	17897	1.29	10600	1.99	(E)-PHYTOL	71.05
22	17.583	22000	1.59	8161	1.53	1-(2-HYDROXYETHOXY)TRIDECANE	85.10
23	19.225	51415	3.72	16332	3.06	METHYL 4,6,10,14-TETRAMETHYLPENTADECANOATE	57.05
24	21.977	95443	6.90	26358	4.94	(R)-(-)-MENTHOL	57.10
25	39.198	36173	2.62	9896	1.86	DOCOSANE	57.05
26	40.058	17752	1.28	2913	0.55	6-[(2-OXOCYCLOHEXYL)METHYL]-4-OXA-5-AZASPIRO[2.4]HEPT-5-ENE	55.05
27	43.866	58849	4.26	13559	2.54	GERANYL LINALOOL ISOMER B	81.05
28	46.303	124760	9.02	23698	4.45	(-)-GLOBULOL	95.15
29	50.258	22768	1.65	4395	0.82	ETHANONE, 2-(4-CHLOROPHENYL)-1-CYCLOHEXYL-2-(1-PIPERIDINYL)-	208.00
			100.00		100.00		

Table S3. Mint leaf extract

Peak#	R.Time	Area	Area%	Height	Height%	Name	Base m/z
1	8.159	92074	1.22	12674	0.60	ALPHA-DECENE	56.05
2	9.782	4179649	55.28	684296	32.29	2-P-CYMENOL	135.10
3	10.995	151054	2.00	49185	2.32	1-TETRADECANOL	55.05
4	11.507	830506	10.98	366988	17.32	(-).BETA.-CARYOPHYLLENE	93.10
5	11.607	298797	3.95	148618	7.01	.alpha.-Bergamotene	93.10
6	11.742	50344	0.67	12892	0.61	1H-INDOLE-3-BUTANOIC ACID, 1,2-DIMETHYL-	158.10
7	11.974	185966	2.46	94715	4.47	ALPHA-CARYOPHYLLENE	93.05
8	12.227	45840	0.61	26104	1.23	HEXANE, 3,3-DIMETHYL-	71.10
9	12.486	143099	1.89	84902	4.01	2,4-DI-T-BUTYLPHENOL	191.15
10	13.515	110933	1.47	63240	2.98	1-TETRADECANOL	55.10
11	13.572	137884	1.82	71649	3.38	CARYOPHYLLENE, EPOXIDE	79.05
12	14.689	27038	0.36	12396	0.58	1-(2-HYDROXYETHOXY)TRIDECANE	57.10
13	14.748	52813	0.70	32199	1.52	OCTADECANE	57.05
14	15.851	55669	0.74	30418	1.44	1-HEPTADECENE	55.05
15	16.427	36520	0.48	22494	1.06	OCTADECANAL	57.10
16	19.235	49032	0.65	14383	0.68	METHYL PRISTANATE	57.05
17	31.877	177622	2.35	74018	3.49	1,2-Dihydropyridine, 1-(1-oxobutyl)-	93.10
18	33.031	45694	0.60	16494	0.78	OCTADECYL FLUORIDE	57.10
19	34.668	645325	8.53	251691	11.88	Squalene	69.05
20	39.632	63808	0.84	16020	0.76	dl-.alpha.-Tocopherol	165.05
21	42.286	32047	0.42	8612	0.41	2-TETRADECYNAL, 4-HYDROXY-	67.05
22	43.891	149255	1.97	25134	1.19	1-BROMO-8-METHYLHEXACOSANE	57.05
			100.00		100.00		

Table S4. Guava leaf extract

Peak#	R.Time	Area	Area%	Height	Height%	Name	Base m/z
1	10.877	3024253	9.23	1184407	8.65	Copaene	105.10
2	11.287	175450	0.54	63580	0.46	BETA.-CARYOPHYLLENE	93.05
3	11.497	11428272	34.89	4752844	34.73	Caryophyllene	93.10
4	11.719	985300	3.01	405665	2.96	1,2-Dihydro-2,2,4-trimethylquinoline	158.10
5	11.869	655197	2.00	210622	1.54	.alpha.-Cubebene	161.15
6	11.959	952524	2.91	481981	3.52	ALPHA-CARYOPHYLLENE	93.10
7	12.165	461992	1.41	213755	1.56	ALPHA.-AMORPHENE	161.15
8	12.425	1363810	4.16	735265	5.37	cis-.alpha.-Bisabolene	93.10
9	12.467	396853	1.21	233238	1.70	2,4-DITERT-BUTYLPHENOL	191.10
10	12.533	1402503	4.28	759311	5.55	.beta.-Bisabolene	69.10
11	12.755	347499	1.06	158555	1.16	trans-calamenene	159.10
12	12.894	867529	2.65	392124	2.87	CADINA-1,4-DIENE	119.10
13	13.144	1508107	4.60	829324	6.06	Nerolidyl acetate	69.05
14	13.558	1103099	3.37	616347	4.50	BETA.-CARYOPHYLLENE OXIDE	79.10
15	13.825	344417	1.05	96815	0.71	Globulol	107.05
16	14.193	681419	2.08	347775	2.54	Longipinocarveol, trans-	136.15
17	14.258	640714	1.96	264260	1.93	DELTA.-CADINOL	161.15
18	14.392	375018	1.14	106456	0.78	AROMADENDRENE	109.10
19	14.733	350229	1.07	119122	0.87	Eicosane	57.10
20	16.406	1067589	3.26	554483	4.05	NEOPHYTADIENE	68.10
21	24.152	891521	2.72	212892	1.56	1-Acetoxyonadecane	83.10

22	32.142	819899	2.50	287436	2.10	4,4'-((p-Phenylene)diisopropylidene)di phenol	331.20
23	34.629	749865	2.29	285373	2.09	Squalene	69.05
24	43.817	2163906	6.61	373665	2.73	.beta.-Sitosterol	81.10
	100.00		100.00				