

## Supporting Information

### A portable colorimetric chemosensing regime of ractopamine in chicken samples using $\mu$ PCD decorated by silver nanoprism

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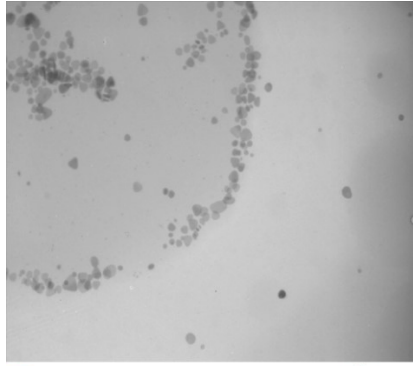
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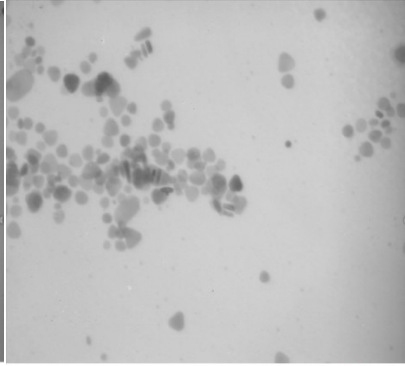
E-mail address: [f\\_seidi@njfu.edu.cn](mailto:f_seidi@njfu.edu.cn)



30 nm



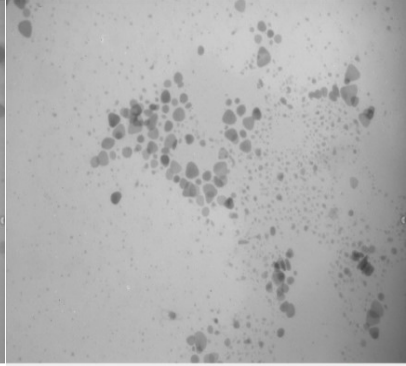
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30 nm



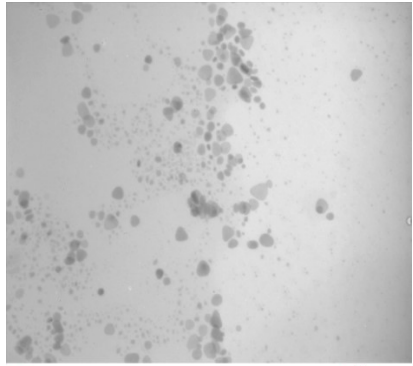
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30 nm



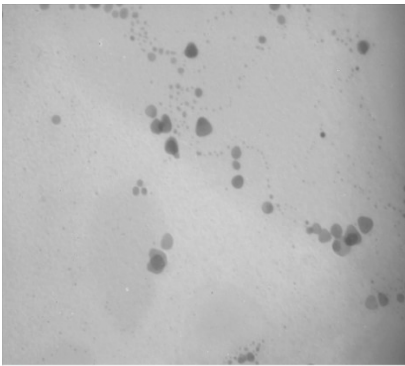
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30 nm



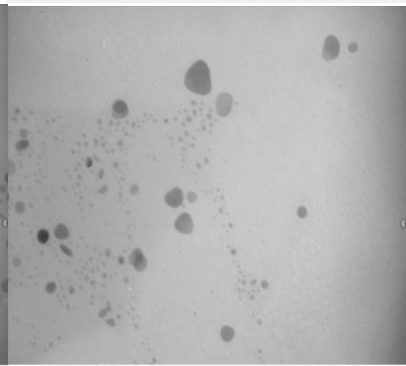
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20 nm



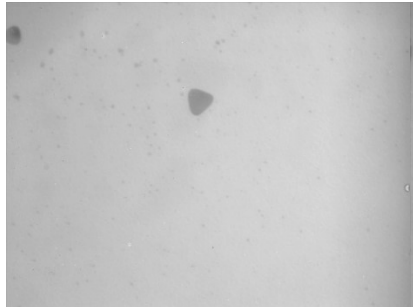
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20 nm



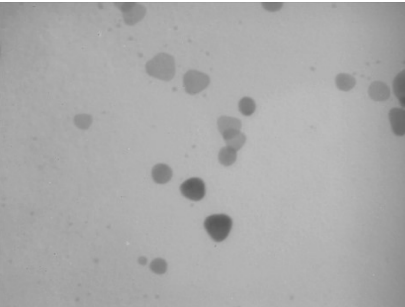
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20 nm



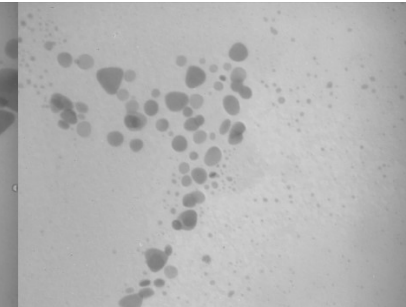
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20 nm



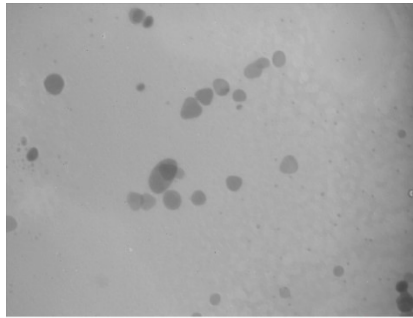
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15 nm



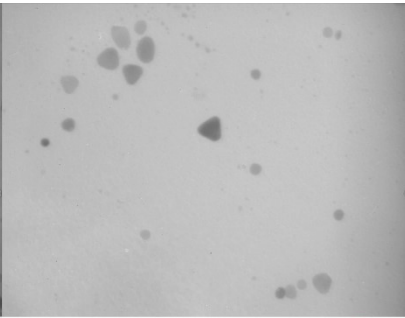
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15 nm



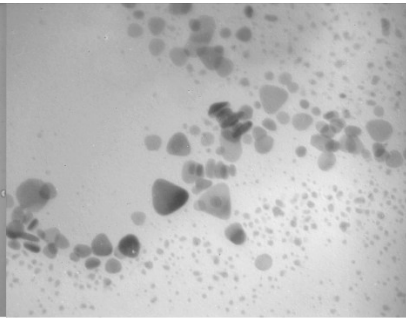
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15 nm



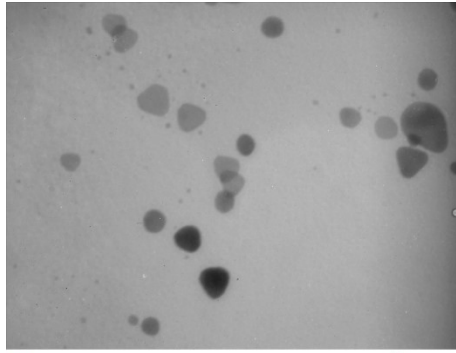
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15 nm



Drug Applied Research Center

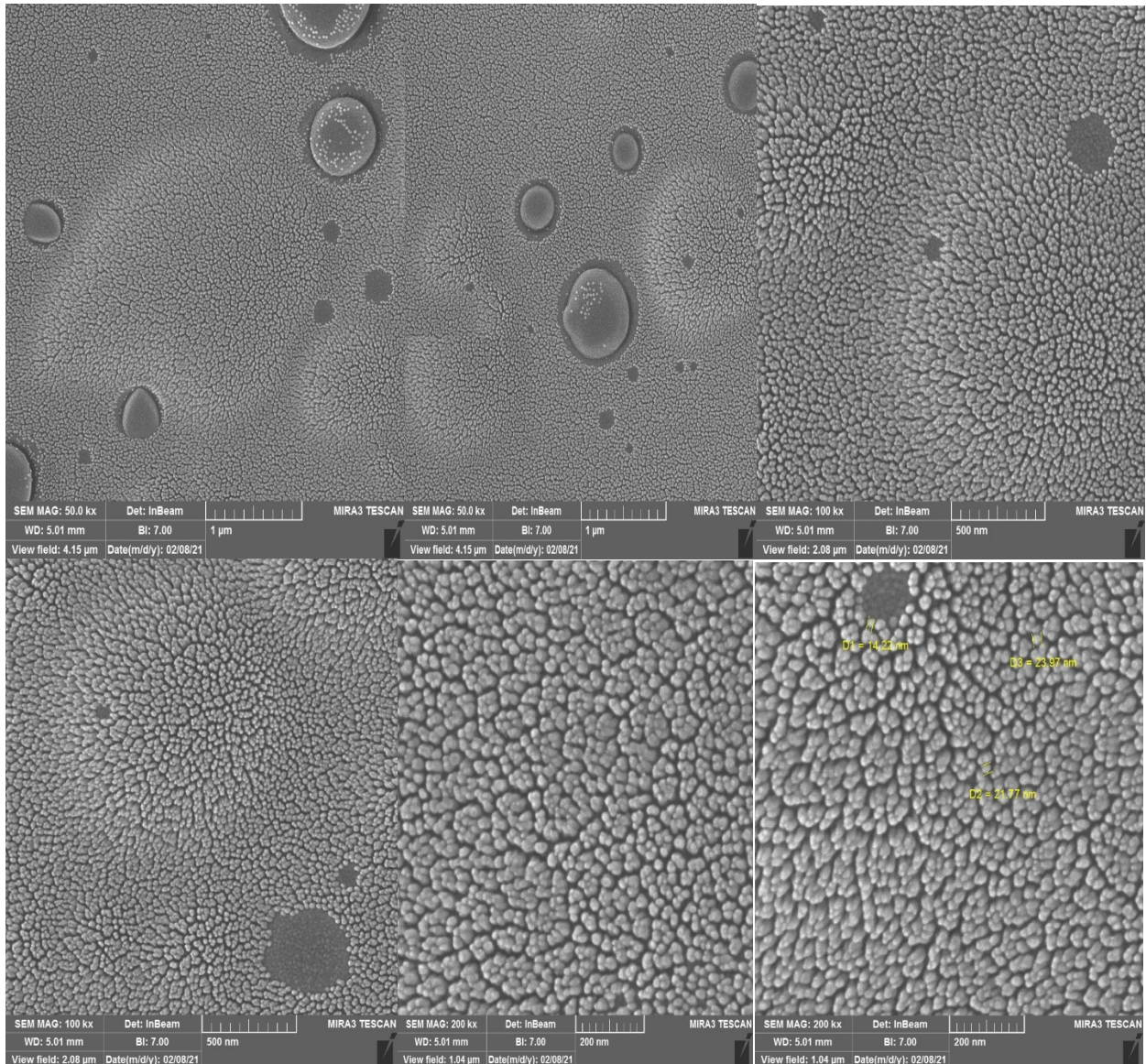


10 nm



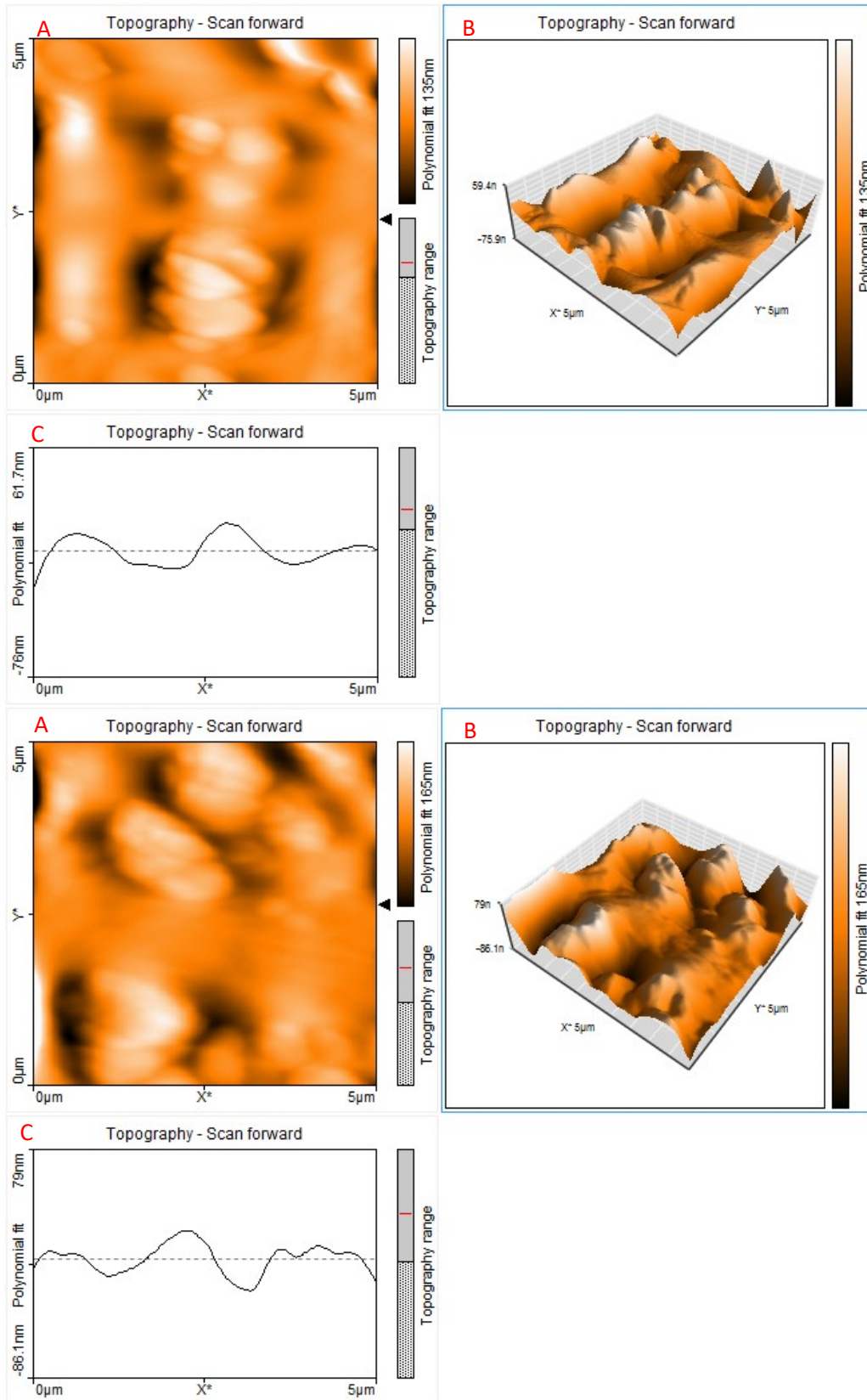
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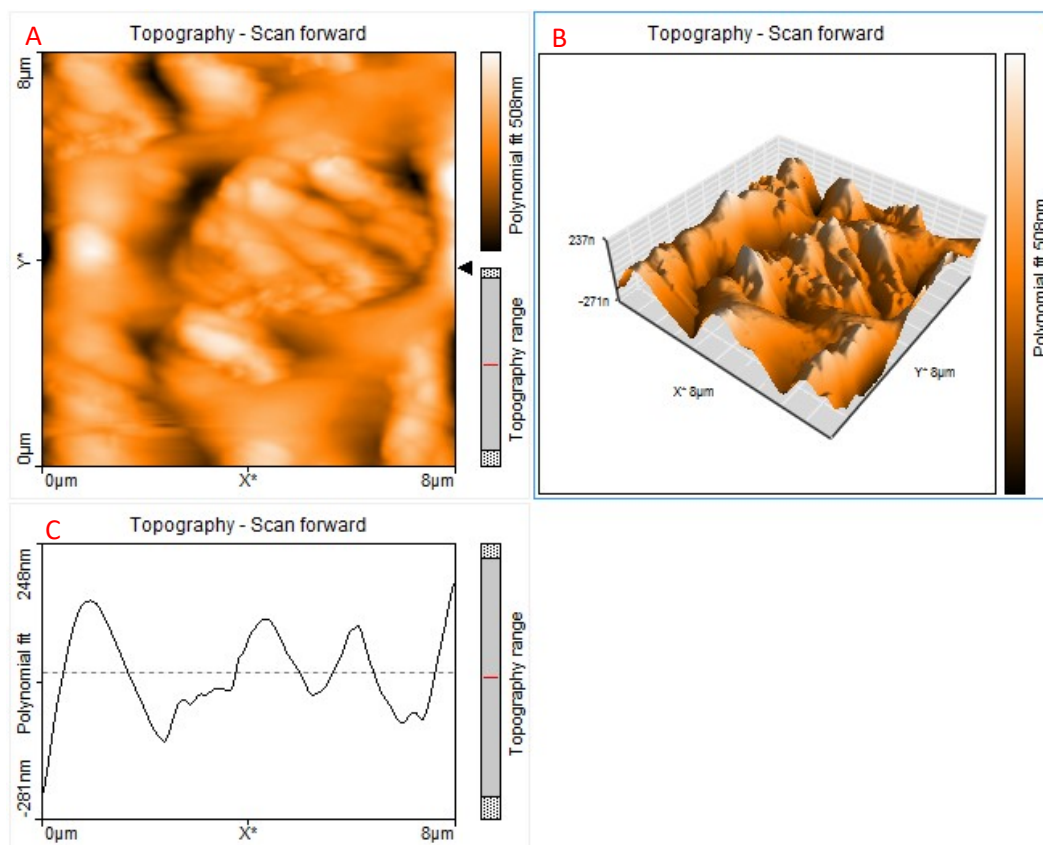
**Fig S1.** TEM images of Ag NPs in 30, 20, 15, and 10 nm scales.



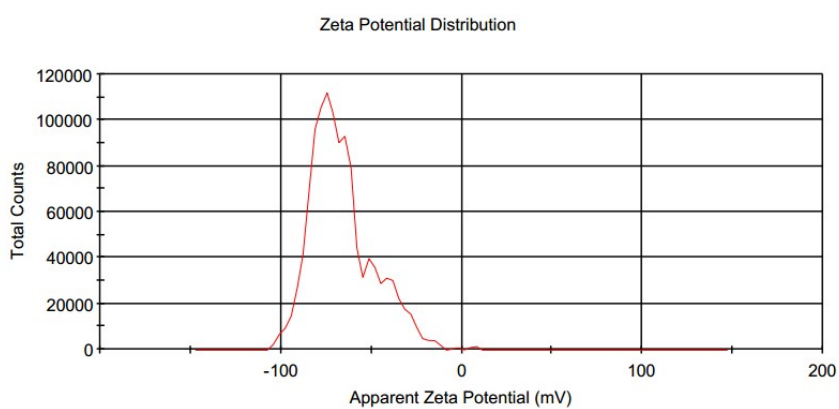


**Fig S2.** FE-SEM Images of AgNPrs from view field of 4.15  $\mu\text{m}$  to 1.04  $\mu\text{m}$ .

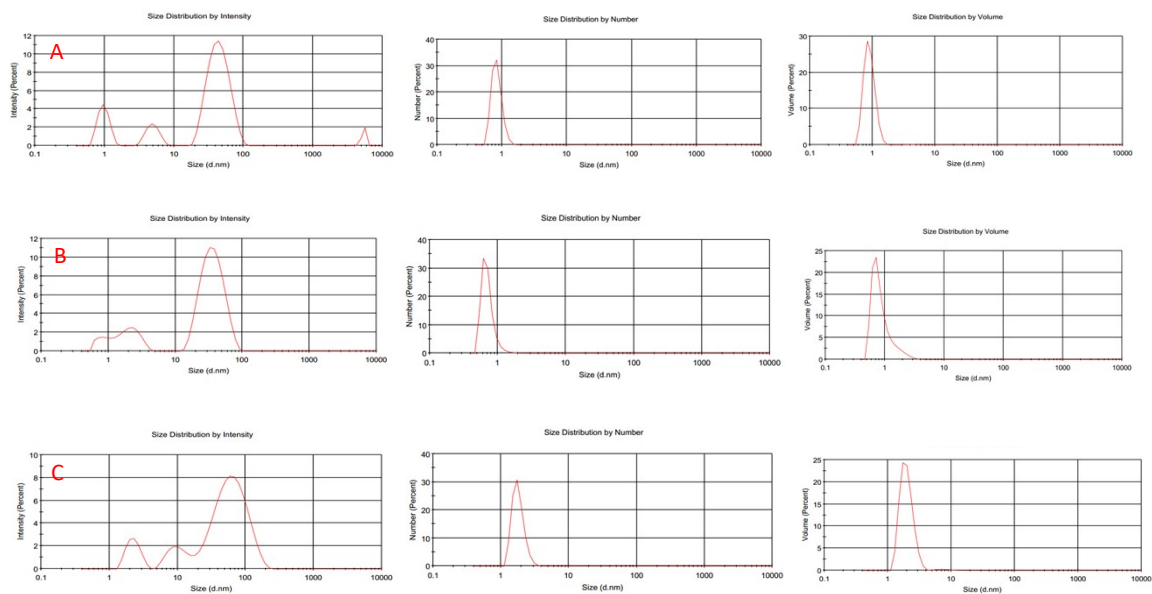




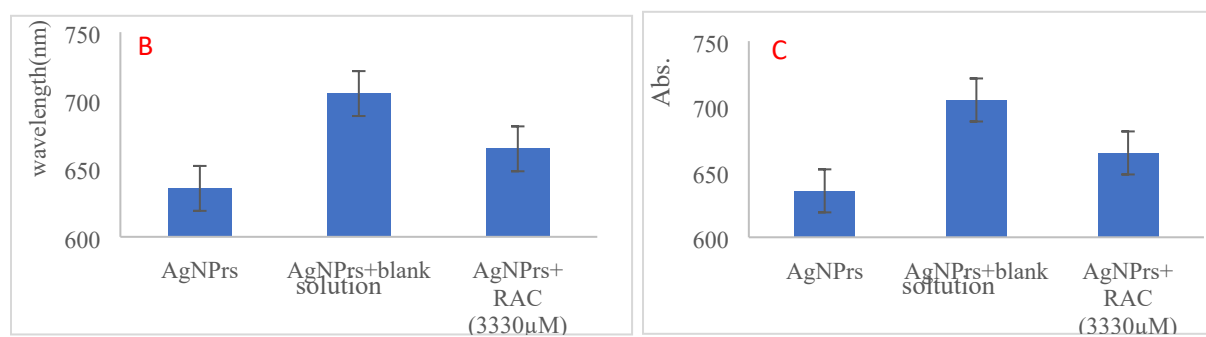
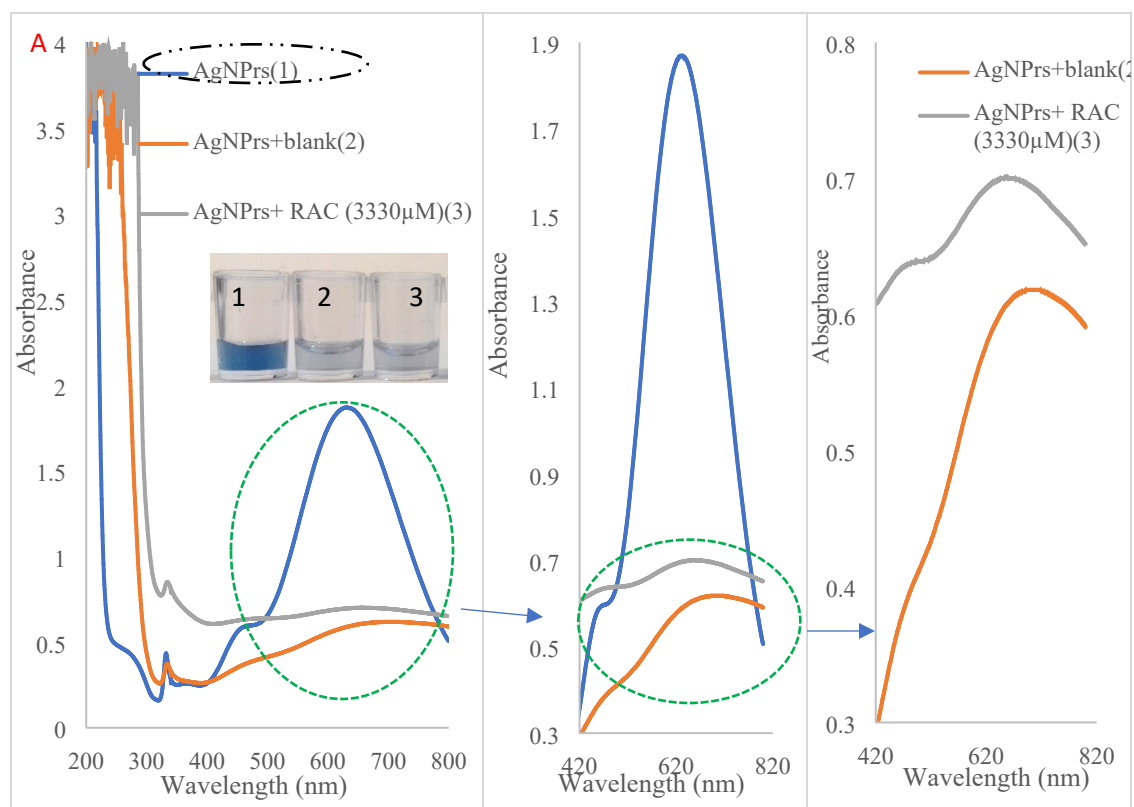
**Fig S3.** Topographic AFM graphs in 2D (A and C) and 3D (B) visualization of Ag NPRs.



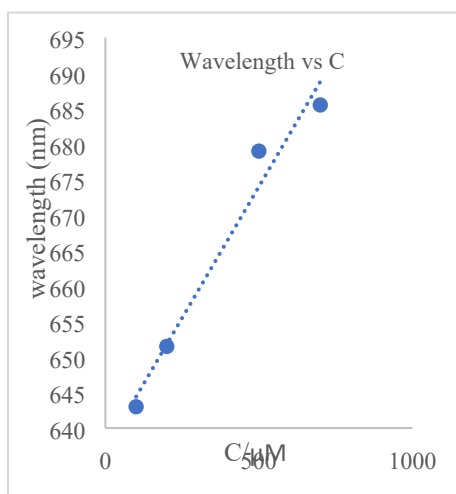
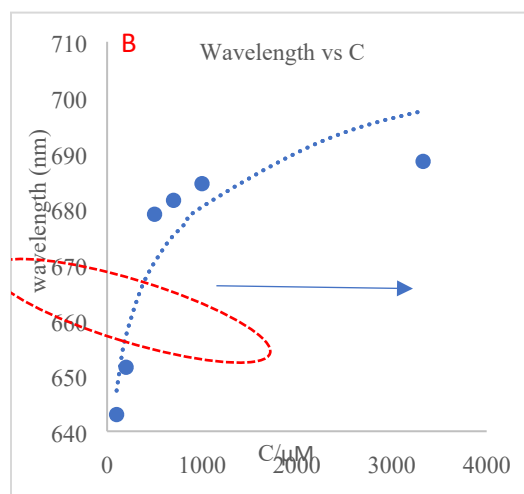
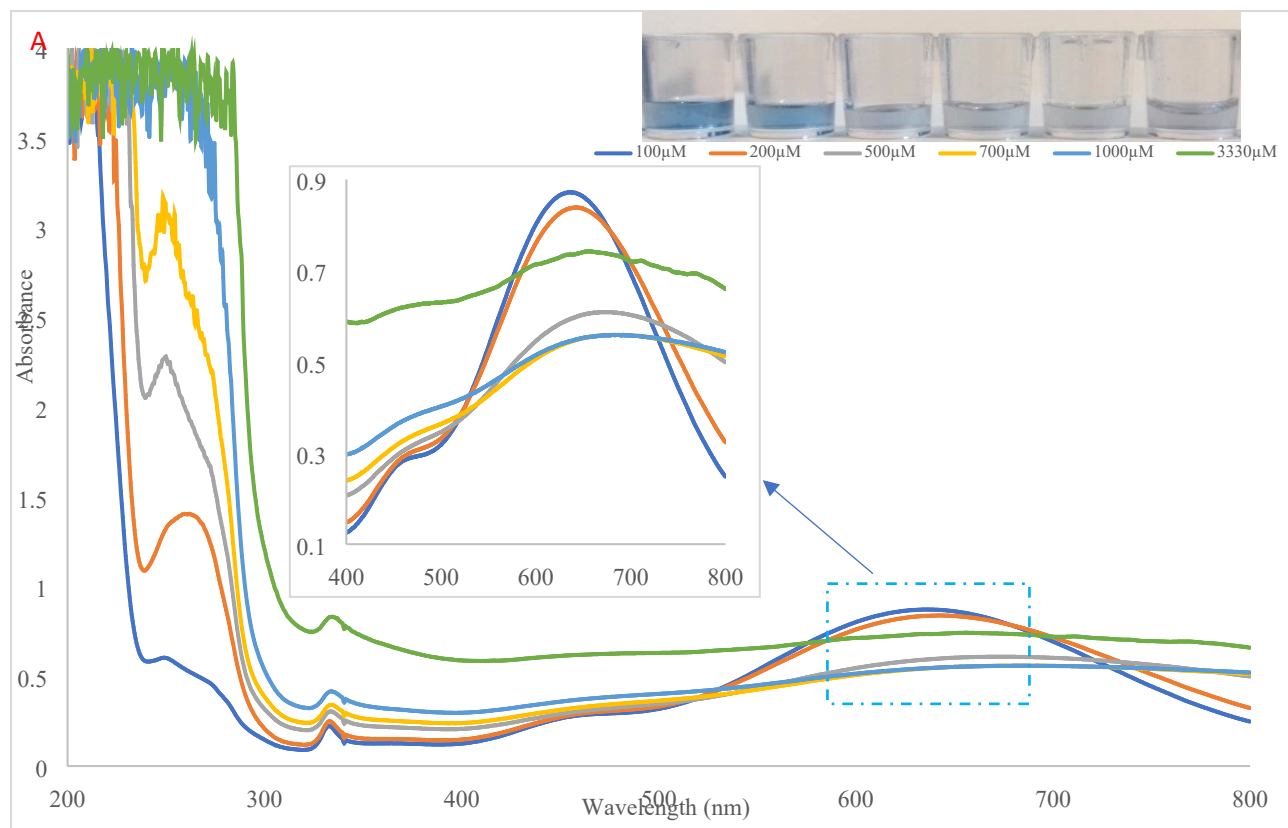
**Fig S4.** Zeta potential of Ag NPRs.



**Fig. S5.** DLS plote of A) Ag NPrs, B) combination of Ag NPrs and RAC immediately, C) combination of Ag NPrs and RAC after 20 minutes.

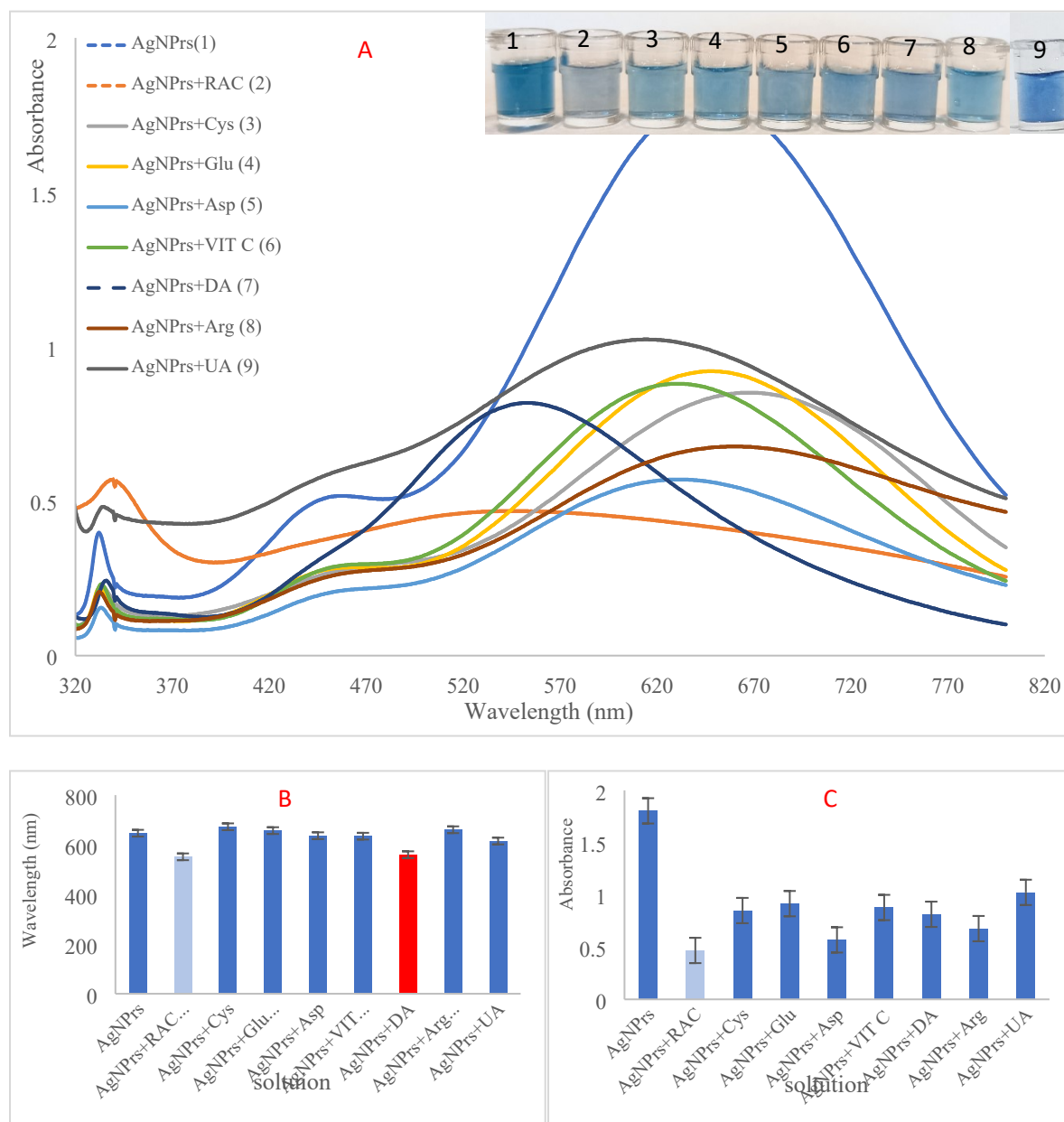


**Fig. S6.** A) digital photo and UV-Vis absorption response for, AgNPrs, blank (chicken extract) + AgNPrs, and AgNPrs+ RAC (3330 μM) B, C) comparison of corresponded wavelength and intensity of absorbance band.



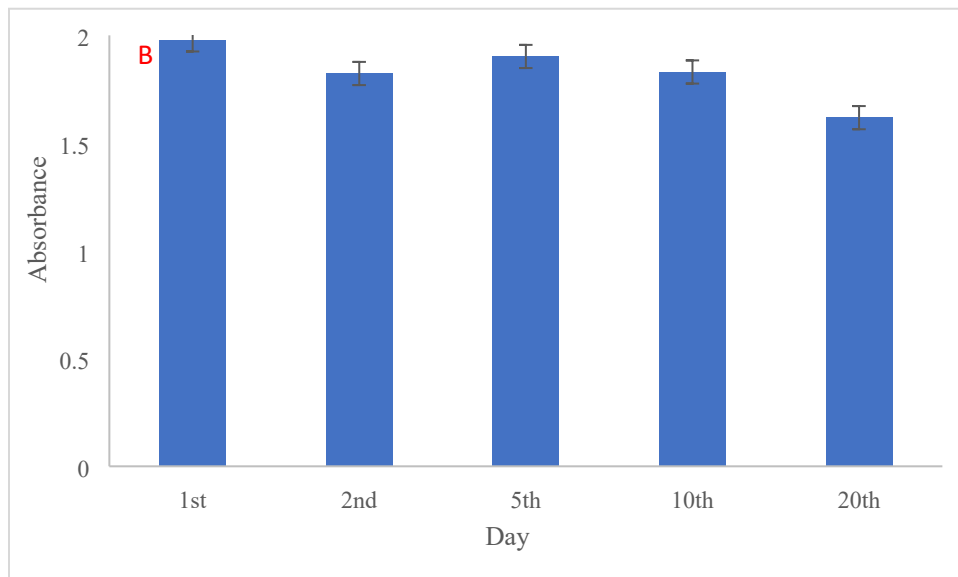
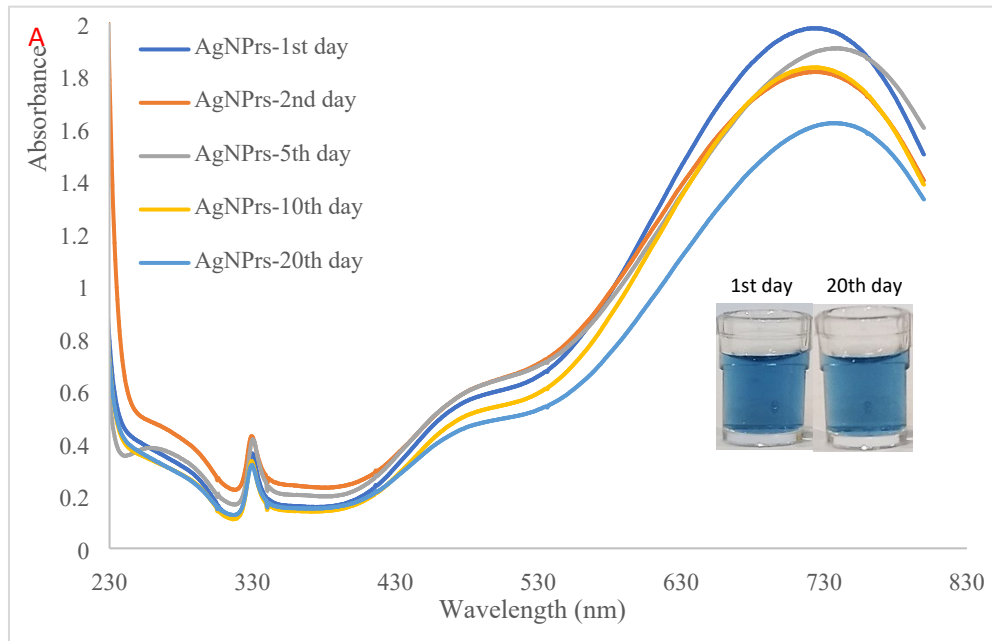
**Fig. S7.** A) UV-Vis spectrum for different concentrations of RAC in chicken sample inset: the related digital photograph B) related calibration curve.





**Fig. S8.** A) Spectroscopic and photographic image of 1) AgNPrs, 2) AgNPrs/RAC, 3) AgNPrs/Cys, 4) AgNPrs/Glu, 5) AgNPrs/Asp, 6) AgNPrs/ VIT C, 7) AgNPrs/DA, 8) AgNPrs/Arg, 9) AgNPrs/UA the ratio of AgNPrs/Analyte was 1:1 V/V and the total volume of each solution was 200  $\mu$ L; B) the position and C) the intensity of the absorbance band for each

interference/AgNPrs in comparison with AgNPrs/RAC. The concentration of RAC and potential interferences were 0.01 M.



**Fi. S9.** A) spectroscopy of AgNPrs in 20 days period. inset: Digital photos of prepared AgNPrs on the 1<sup>st</sup> day and 20<sup>th</sup> day. B) comparison of the intensity of absorption band around 740 nm on different days.

**Table S1.** RGB codes and colors for items shown from Figs. 1 to S9

Fig.	item	RGB code	~ color name	Fig.	item	RGB code	~ color name	Fig.	item	RGB code	~ color name	
1	1	29, 111, 154	Sea Blue	3 (50 min)	0.01	72, 89, 114	Marengo	6 (A)	7	152, 179, 217	Jordy Blue	
	2	104, 155, 174	Moonstone Blue		10000 $\mu$ M	228, 219, 217	Gainsboro		8	151, 178, 212	Jordy Blue	
	3	206, 202, 190	Pastel Gray		5000 $\mu$ M	246, 237, 216	Parchment		1	85, 126, 181	Glaucous	
	4	210, 202, 189	Pastel Gray		1000 $\mu$ M	216, 203, 189	Bone		2	226, 212, 201	Almond	
	5	135, 119, 104	Almond Frost		500 $\mu$ M	175, 166, 144	Grullo		3	234, 190, 147	Nude	
	6	171, 159, 147	Grullo		100 $\mu$ M	171, 162, 149	Grullo		4	217, 183, 173	Chilean Pink	
1 (1h)	1	31, 94, 141	Lapis Lazuli		50 $\mu$ M	118, 134, 153	Light Slate Gray		5	202, 180, 188	Silver Pink	
	2	142, 136, 143	Taupe Gray		10 $\mu$ M	99, 132, 164	Air Force Blue (RAF)		6	187, 186, 201	Lavender Gray	
	3	190, 187, 178	Medium Gray		5 $\mu$ M	87, 122, 154	Steel Blue	7	147, 176, 215	Jordy Blue		
	4	200, 197, 190	Pastel Gray		1 $\mu$ M	110, 136, 163	Shadow Blue	8	147, 176, 208	Jordy Blue		
	5	164, 162, 157	Quick Silver		0.1 $\mu$ M	101, 128, 155	Slate Gray	1	52, 72, 133	Marian Blue		
	6	165, 151, 142	Grullo		0.01 $\mu$ M	116, 137, 152	Light Slate Gray	2	183, 169, 158	Grullo		
2	2	11, 107, 150	Sea Blue		4 (2min)	1	48, 91, 123	Lapis Lazuli	6 (B)	3	193, 163, 122	Light French Beige
	3	125, 164, 177	Pewter Blue			2	136, 124, 125	Taupe Gray		4	197, 167, 106	Light French Beige
	4	221, 180, 143	Nude			3	114, 135, 149	Light Slate Gray		5	213, 178, 116	Burlywood
3 (0 min)	10000 $\mu$ M	121, 139, 163	Shadow Blue			4	122, 135, 144	Light Slate Gray		6	216, 193, 136	Lion
	5000 $\mu$ M	100, 124, 157	Glaucous			5	111, 132, 145	Slate Gray		7	211, 194, 153	Lion
	1000 $\mu$ M	93, 130, 163	Air Force Blue (RAF)			6	106, 133, 150	Slate Gray		8	120, 136, 171	Wild Blue Yonder
	500 $\mu$ M	76, 113, 144	Queen Blue	7		107, 133, 150	Slate Gray	1		175, 174, 180	Dark Gray	
	100 $\mu$ M	83, 129, 166	Steel Blue	8		120, 138, 150	Light Slate Gray	2		164, 141, 120	Almond Frost	
	50 $\mu$ M	78, 123, 156	Steel Blue	9		110, 135, 149	Light Slate Gray	3	181, 164, 148	Grullo		
	10 $\mu$ M	84, 124, 158	Steel Blue	1		35, 69, 116	Dark Cerulean	4	191, 164, 146	Pale Taupe		
	5 $\mu$ M	88, 125, 160	Steel Blue	2		172, 154, 125	Grullo	5	207, 181, 105	Vegas Gold		
	1 $\mu$ M	106, 139, 168	Air Force Blue (RAF)	3		94, 123, 147	Slate Gray	6	216, 185, 111	Vegas Gold		
	0.1 $\mu$ M	114, 143, 169	Shadow Blue	4	139, 133, 129	Gray (Crayola)	7	208, 184, 130	Sand			
0.01 $\mu$ M	126, 151, 172	Shadow Blue	5	135, 133, 134	Battleship Gray	8	202, 179, 120	Sand				
3 (30 min)	10000 $\mu$ M	186, 147, 133	Pale Taupe	4 (30min)	6	90, 122, 146	Slate Gray	6 (C)	1	216, 199, 185	Pale Silver	
	5000 $\mu$ M	196, 149, 121	Pale Taupe		7	85, 120, 145	Slate Gray		2	174, 193, 210	Light Steel Blue	
	1000 $\mu$ M	166, 126, 121	Burnished Brown		8	132, 132, 137	Aluminum		3	160, 179, 211	Light Steel Blue	
	500 $\mu$ M	148, 114, 104	Burnished Brown		9	99, 126, 146	Slate Gray		4	157, 176, 208	Light Steel Blue	
	100 $\mu$ M	134, 110, 108	Deep Taupe		1	88, 129, 183	Glaucous		5	213, 220, 223	Gainsboro	
	50 $\mu$ M	79, 96, 124	Marengo		2	223, 211, 197	Bone		6	173, 198, 226	Light Steel Blue	
	10 $\mu$ M	51, 75, 110	Dark Cerulean		3	229, 183, 145	Nude		7	171, 194, 223	Light Steel Blue	
	5 $\mu$ M	58, 82, 121	Marian Blue		4	212, 177, 166	Chilean Pink		8	158, 183, 216	Light Steel Blue	
	1 $\mu$ M	61, 77, 111	Purple Navy		5	201, 181, 190	Silver Pink	1	217, 200, 187	Pale Silver		
	0.1 $\mu$ M	65, 75, 111	Purple Navy		6	185, 183, 197	Lavender Gray	2	190, 194, 202	Lavender Gray		
3 (30 min)	0.1 $\mu$ M	65, 75, 111	Purple Navy	5 (B)	6	185, 183, 197	Lavender Gray	8 (B)	2	190, 194, 202	Lavender Gray	

Fig.	item	RGB code	~ color name	Fig.	item	RGB code	~ color name	Fig.	item	RGB code	~ color name	
8 (B)	3	137, 153, 186	Cool Gray	9 (A)	7	181, 167, 169	Silver Pink	S7	3	166, 167, 172	Quick Silver	
	4	160, 177, 206	Light Steel Blue		8	201, 178, 170	Silver Pink		100	100, 142, 175	Air Force Blue (RAF)	
	5	213, 216, 215	Light Gray		1	197, 185, 171	Pale Silver		200	105, 145, 173	Air Force Blue (RAF)	
	6	185, 148, 175	Glossy Grape		2	176, 181, 178	Medium Gray		500	158, 168, 181	Cadet Gray	
	7	167, 160, 187	Pastel Purple		3	225, 204, 169	Lion		700	163, 169, 174	Dark Gray	
	8	122, 154, 197	Dark Pastel Blue		4	231, 214, 193	Almond		1000	168, 169, 174	Dark Gray	
8 (C)	1	211, 192, 178	Pale Silver	9 (B)	5	224, 212, 195	Bone	S8	3330	161, 162, 168	Quick Silver	
	2	202, 202, 200	Neon Silver		6	223, 202, 157	Lion		1	33, 109, 146	Sea Blue	
	3	172, 183, 207	Light Steel Blue		7	226, 205, 156	Lion		2	157, 165, 171	Cadet Gray	
	4	247, 222, 182	Wheat		8	218, 195, 154	Lion		3	122, 155, 168	Pewter Blue	
	5	216, 219, 218	Gainsboro		9 (C)	1	190, 178, 165		Pale Silver	4	112, 151, 169	Air Superiority Blue
	6	211, 156, 165	Pastel pink			2	183, 180, 173		Medium Gray	5	119, 150, 168	Air Superiority Blue
	7	201, 171, 176	Silver Pink			3	216, 197, 167		Khaki	6	114, 148, 169	Air Force Blue (RAF)
	8	118, 138, 175	Wild Blue Yonder			4	218, 196, 179		Desert Sand	7	119, 149, 169	Air Superiority Blue
9 (A)	1	198, 181, 165	Pale Silver	5		211, 193, 176	Pale Silver	8	119, 163, 184	Moonstone Blue		
	2	186, 198, 203	Pastel Blue	6		216, 192, 145	Lion	9	83, 136, 192	Steel Blue		
	3	222, 201, 189	Almond	7		213, 192, 155	Tan	S9 (A)	1st day	45, 100, 143	Lapis Lazuli	
	4	233, 210, 181	Almond	8		210, 186, 151	Tan		20th day	57, 112, 151	Bice Blue	
	S6	5	226, 205, 185	Almond	1	50, 96, 144	Lapis Lazuli					
		6	232, 200, 173	Desert Sand	2	163, 164, 170	Quick Silver					