







Visualization 6. Characteristic parameters of the optimized nanoresonators. (a) FWHM of spectral peaks, ecs : extinction cross-section, scs : scattering cross-section, $Purcell$: *Purcell factor*, δR_{em} : radiative rate enhancement at the emission, (b) Q quality factor calculated from ecs and $Purcell$ factor spectral peaks, (c) $\Delta\lambda$: peak's detuning from SiV color center emission wavelength, (d) Δf : frequency pulling. Lines are to guide eyes and to uncover tendencies of depicted quantities in groups of (a, b, c, d) spherical and ellipsoidal nanoresonators, among them (a, c) ecs , scs , $Purcell$ factor, δR_{em} spectral peaks separately, (b) ecs and $Purcell$ factor peaks separately.

Colors indicate, when certain quantity is larger in case of

4 6 number of emitters
 
coated bare type of nanoresonator
 
spherical ellipsoidal geometry of nanoresonator
 

nanoresonator qualification		bare_4		coated_4		bare_6		coated_6	
		spherical	ellipsoidal	spherical	ellipsoidal	spherical	ellipsoidal	spherical	ellipsoidal
ecs	FWHM (nm)								
		14.04	40.30	12.67	30.91	14.04	40.34	12.78	30.86
	Q factor								
		52.49	18.28	58.13	23.88	52.48	18.27	57.68	23.93
	$\Delta\lambda$ (nm)	0.22	-0.17	0.44	1.40	0.03	-0.10	-0.05	1.45
scs	FWHM (nm)								
		14.13	40.03	12.58	30.42	14.14	40.07	12.69	30.87
	$\Delta\lambda$ (nm)	0.65	0.21	1.23	1.83	0.46	0.28	0.75	2.09
Purcell	FWHM (nm)								
		13.68	38.80	12.31	30.94	13.68	38.79	12.56	29.74
	Q factor								
		53.89	18.99	59.91	23.82	53.88	19.00	58.71	24.78
	$\Delta\lambda$ (nm)	0.27	-0.28	0.46	0.04	0.02	-0.15	0.46	0.05
δR_{em}	FWHM (nm)								
		13.62	39.71	12.25	31.19	13.62	39.78	12.50	30.14
	$\Delta\lambda$ (nm)	0.26	-0.40	0.42	-0.13	0.01	-0.27	0.43	-0.11
Δf (nm)		0.04	0.23	0.02	1.53	0.02	0.17	0.48	1.56

Table corresponding to Visualization 6. Qualification of the optimized nanoresonators. ecs: extinction cross-section, scs: scattering cross-section, *Purcell*: Purcell factor, δR_{em} : radiative rate enhancement at emission, FWHM: full width at half maximum of spectral peaks, *Q factor*: quality factor calculated from ecs and *Purcell factor* spectral peaks, $\Delta\lambda$: detuning of spectral peaks from nominal SiV color center emission wavelength, Δf : frequency pulling.