## A Series of Novel Silver Selenites with d<sup>0</sup>-TM Cations

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Table S1. Calculated dipole moments for all asymmetric units and the unit cells in

 $Ag_3Ti_3O_3(SeO_3)_4F$  (D = Debyes).

Figure S1. Simulated and experimental XRD powder patterns of 1 (a), 2 (b), 3 (c) and 4(d).

Figure S2. TGA and DTA curves of compounds 1(a), 2(b), 3(c) and 4(d).

Figure S3. IR spectra of compounds 1(a), 2(b), 3(c) and 4(d).

Figure S4. UV-Vis-NIR Diffuse Reflectance spectra of compounds 1(a), 2(b), 3(c)

and **4**(d).

	Species	dipole moment (D)			
Ag <sub>3</sub> Ti <sub>3</sub> O <sub>3</sub> (SeO <sub>3</sub> ) <sub>4</sub> F		total	x	у	Z
	Ti(1)O <sub>6</sub>	4.073	3.736	-1.501	0.616
		4.073	-3.168	-2.485	0.616
		4.073	-0.569	3.986	0.616
		4.073	0.568	-3.986	0.616
		4.073	3.167	2.485	0.616
		4.073	-3.736	1.501	0.616
	Se(1)O <sub>3</sub>	9.668	8.620	4.302	0.816
		9.668	-8.035	5.314	0.816
		9.669	-0.585	-9.617	0.816
		9.668	0.584	9.616	0.816
		9.668	8.036	-5.314	0.816
		9.668	-8.620	-4.302	0.816
	Se(2)O <sub>3</sub>	9.374	0	0	9.374
		9.374	0	0	9.374
	Net(unit cell)	27.33	0	0	27.33

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Figure S3. IR spectra of compounds 1(a), 2(b), 3(c) and 4(d).

Fig S4. UV-Vis-NIR Diffuse Reflectance spectra of compounds 1(a), 2(b), 3(c) and

**4**(d).