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Are the organic templates responsible for optical and magnetic response of MgO nanoparticle?

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Supplementary Information

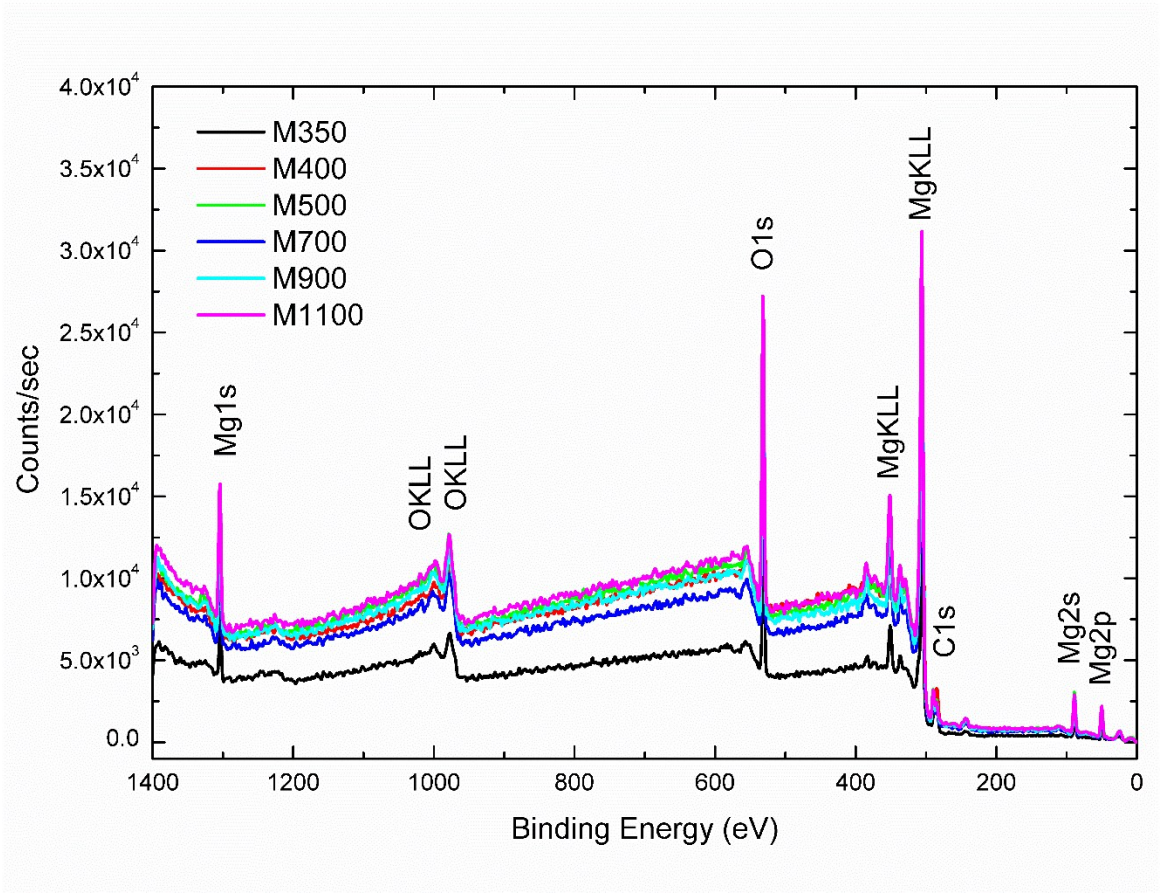

Fig. S1: XPS survey scan spectra of MgO nanoparticles

Table S1: Spectral features for O 1s XPS spectra for MgO nanoparticles[1-4]

Nanoparticles	Peak Energy (eV)	Peak-width (eV)	Peak Area (eV-counts/sec)
M350	531.5	2.1	7257±118
	532.6	2.1	4684±118
M400	531.4	2.1	13051±116
	533.2	2.1	8456±116
M500	531.4	2.1	21095±160
	533.2	2.1	10039±116
M700	531.6	2.1	19944±136
	533.1	2.1	4690±136
M900	531.4	2.1	22899±111
	533.2	2.1	5048±111
M1100	531.4	2.1	20296±124
	533.2	2.1	8498±124

Table S2: Spectral features for Mg 1s XPS spectra for MgO nanoparticles[1-4]

Nanoparticles	Peak Energy (eV)	Peak-width (eV)	Peak Area (eV-counts/sec)
M350	1304.2	1.9	3467±80
	1305.2	1.9	2969±102
	1306.6	2.1	50±87
M400	1304.2	1.9	7379±128
	1305.2	1.9	6093±229
	1306.6	2.1	74±207
M500	1304.2	2.1	21095±160
	1305.8	2.1	5355±318
	1306.6	2.1	267±285
M700	1304.2	2.1	13762±184
	1305.8	2.1	4290±329
	1306.6	2.1	50±295
M900	1304.2	2.1	15522±177
	1305.8	2.1	3119±15
	1306.6	2.1	838±266
M1100	1304.2	2.1	12404±179
	1305.7	2.1	6543±290
	1306.6	2.1	1874±252

Table S3: Spectral features for C 1s XPS spectra for MgO nanoparticles[1-4]

Nanoparticles	Peak Energy (eV)	Peak-width (eV)	Peak Area (eV-counts/sec)
M350	283.0	2.2	50±91
	284.2	2.2	1959±145
	285.6	2.2	1446±306
	286.1	2.2	50±256
	288.6	2.2	1418±82
	289.9	2.2	668±82
	291.7	2.2	50±59
M400	283.0	2.2	50±45
	284.2	2.2	1551±72
	285.6	2.2	700±151
	286.1	2.2	779±125
	288.6	2.2	488±40
	289.9	2.2	1394±38
	291.7	2.2	456±29
M500	283.5	2.2	324±44
	284.7	2.2	879±52
	286.1	2.2	446±40
	289.7	2.2	2534±28
	291.7	2.2	102±28
M700	283.5	2.2	202±41
	284.7	2.2	1013±41
	286.1	2.2	139±31
	289.7	2.2	2275±28
	291.7	2.2	50±29
M900	283.6	2.2	330±58
	284.7	2.2	893±68
	286.1	2.2	314±51
	289.7	2.2	2461±35
	291.7	2.2	50±36
M1100	283.5	2.2	221±38
	284.7	2.2	975±38
	286.7	2.2	341±29
	289.7	2.2	2267±26
	291.7	2.2	378±27

References

1. R. P. Vasequez, *Surface Science Spectra*, 1993, **2**, 13-19
2. Ashley R. Head, J. Schnadt, *JOM*, 2016, **68**, 3070-3077
3. F. Khairallah, A. Glisenti, *Surface Science Spectra*, 2006, **13**, 58-71
4. J. H. Lee, J. H. Eun, S. G. Kim, S. J. Park, Mi Jung Lee, H. J. Kim, *J. Mater. Res.* 2003, **18**, 2895-2903