Supporting Information

High surface area 3D-MgO flowers as the modifier for working electrode for efficient detection of 4-chlorophenol

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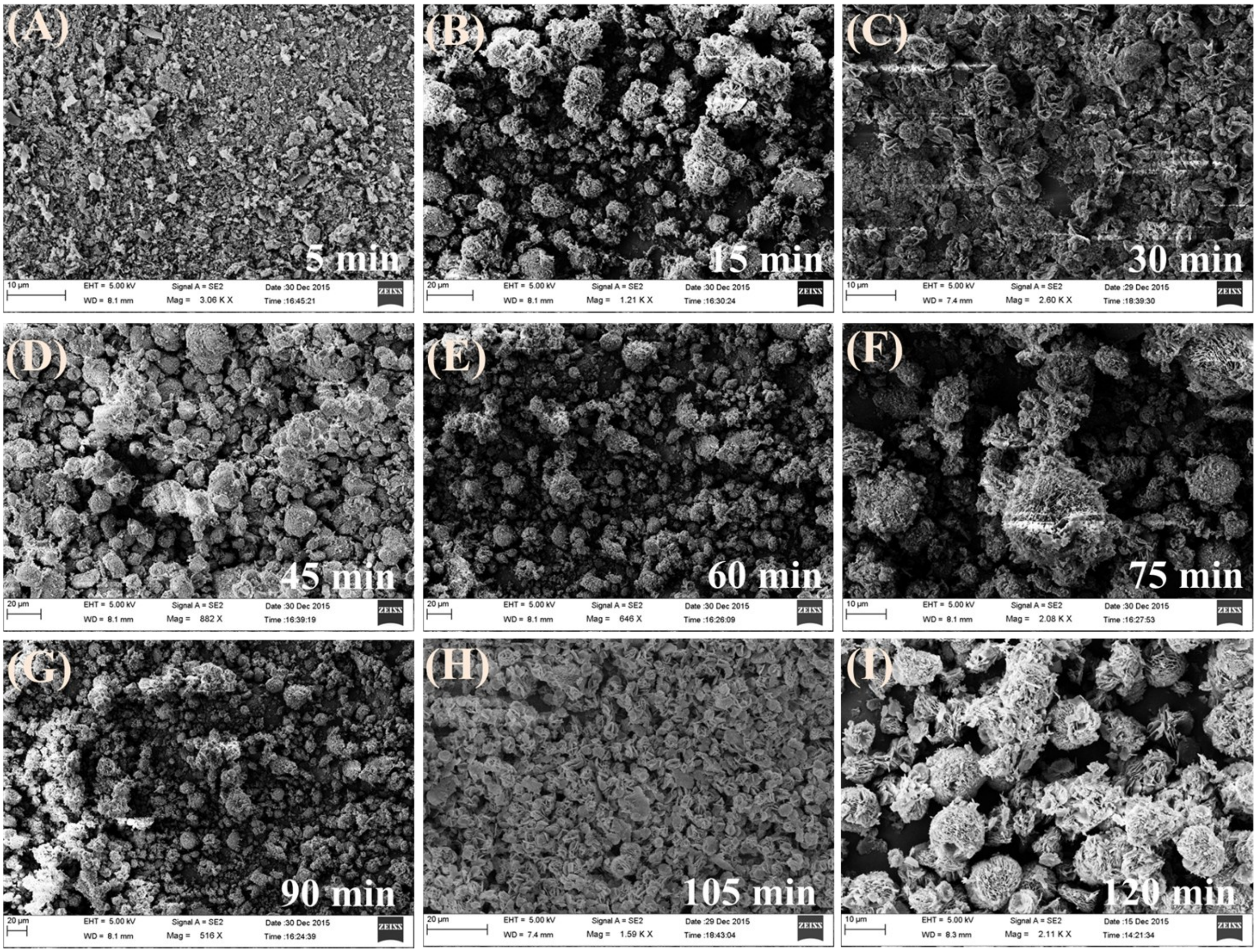

Fig. S1 FE-SEM image showing development of MgO 3D-flowers at different time interval (A-I).

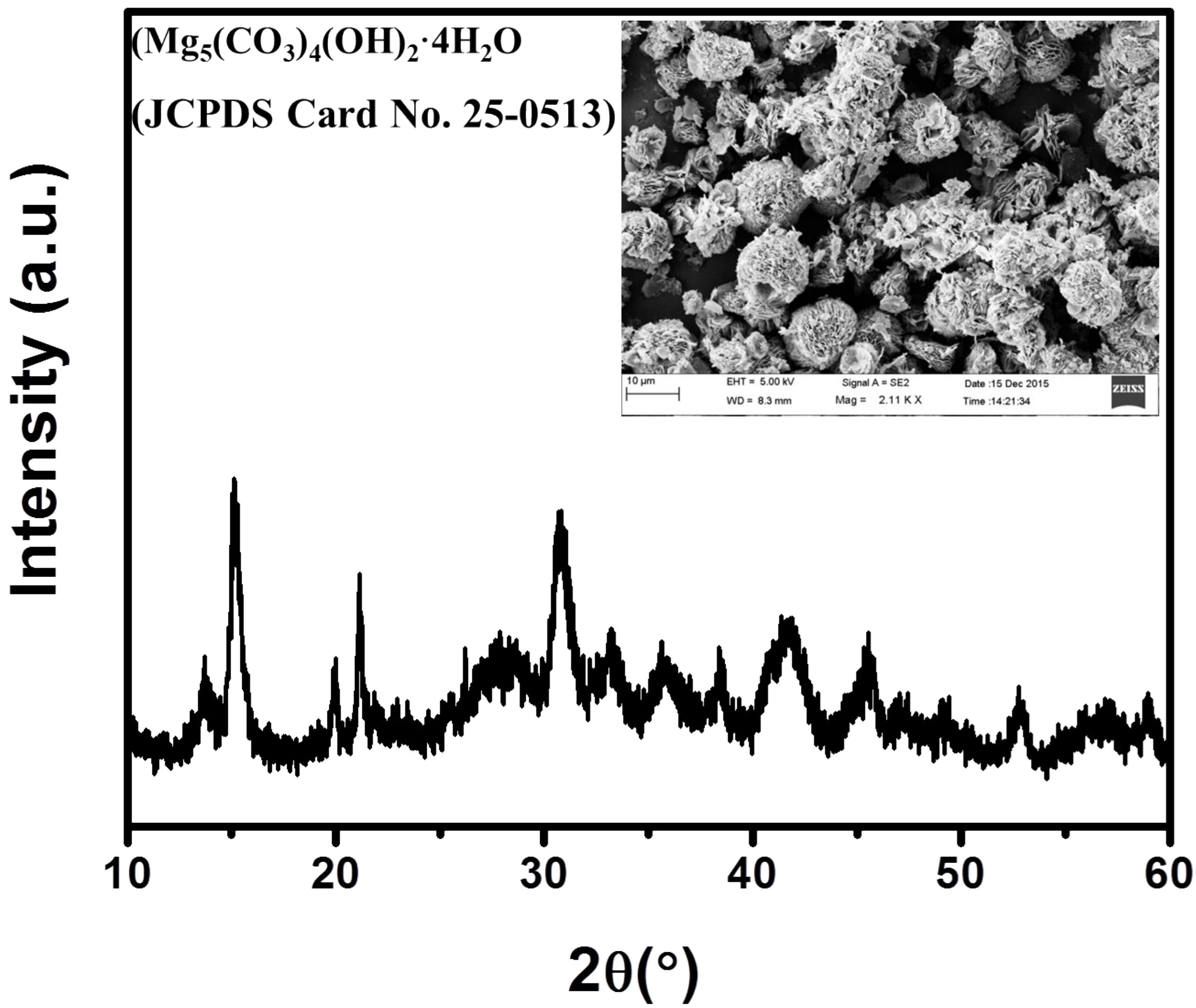

Fig. S2 PXRD of $Mg_5(CO_3)_4(OH)_2.4H_2O$. Inset shows the SEM image of $Mg_5(CO_3)_4(OH)_2.4H_2O$.

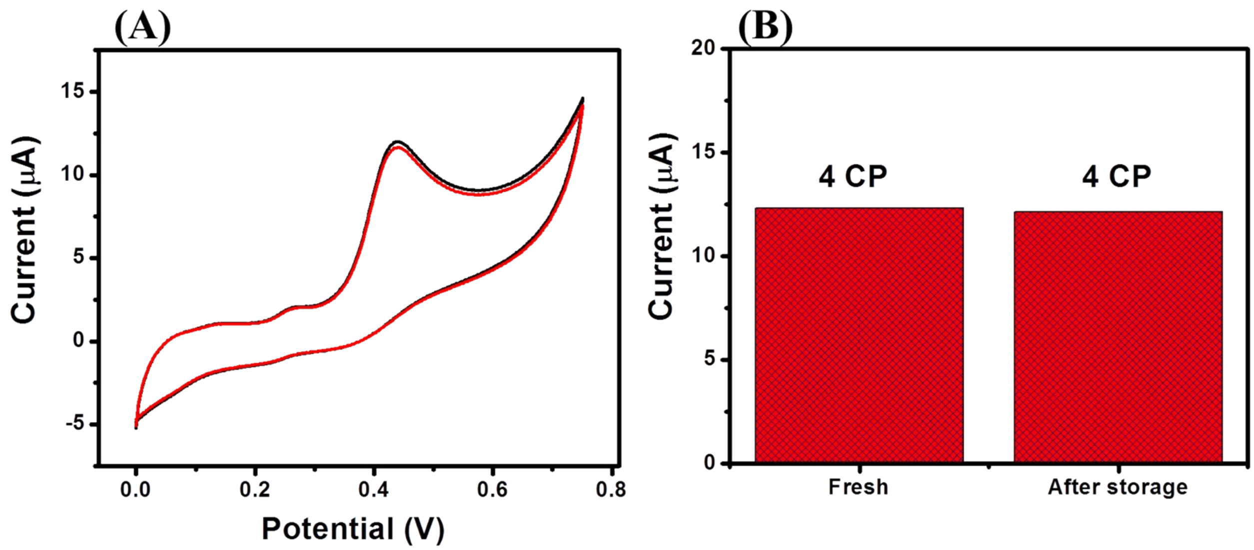

Fig. S3 CV of freshly prepared **MgO 3D-flowers/GCE** sensor (black line) and after storage (red line) in presence of 4-CP in 0.1 M PBS (pH=7.0).

Table S1. Comprising of specific surface area of MgO 3D-flowers with reported MgO.

S. No.	**Surface morphology**	**Specific surface area (m^2/g)**	**Synthetic process**	**References**
1.	MgO Microspheres	135	Hydrothermal	5
2.	MgO flowers	45	Hydrothermal	8
3.	MgO microspheres	140.9	Precipitation	16
4.	MgO rods	115	Hydrothermal	33
5.	MgO big flowers	82	Hydrothermal	33
6.	MgO small flowers	87	Hydrothermal	33
7.	MgO cubes	33	Hydrothermal	33
8.	MgO plates	75	Hydrothermal	33
9.	MgO cubes	94	Hydrothermal	34
10.	MgO sheets	190.69	Hydrothermal	35
11.	**Mgo 3D-flowers**	**218**	Reflux	***This work***

Table S2. EIS parameters calculated for GCE and **MgO 3D-flowers/GCE** sensor.

Circuit Parameters	**Bare GCE**	**MgO 3D-flowers/GCE** sensor
R_1 (Ω)	90.8	76.2
R_2(Ω)	6610	1970

Where R_1= Resistance due to electrolyte.

R_2= Raterials Charge transfer resistance.