Electronic Supplementary Material (ESI) for RSC Advances.

Mesoporous silica based reservoir for active protection of mild steel in aggressive chloride ion environment.

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Supplementary information

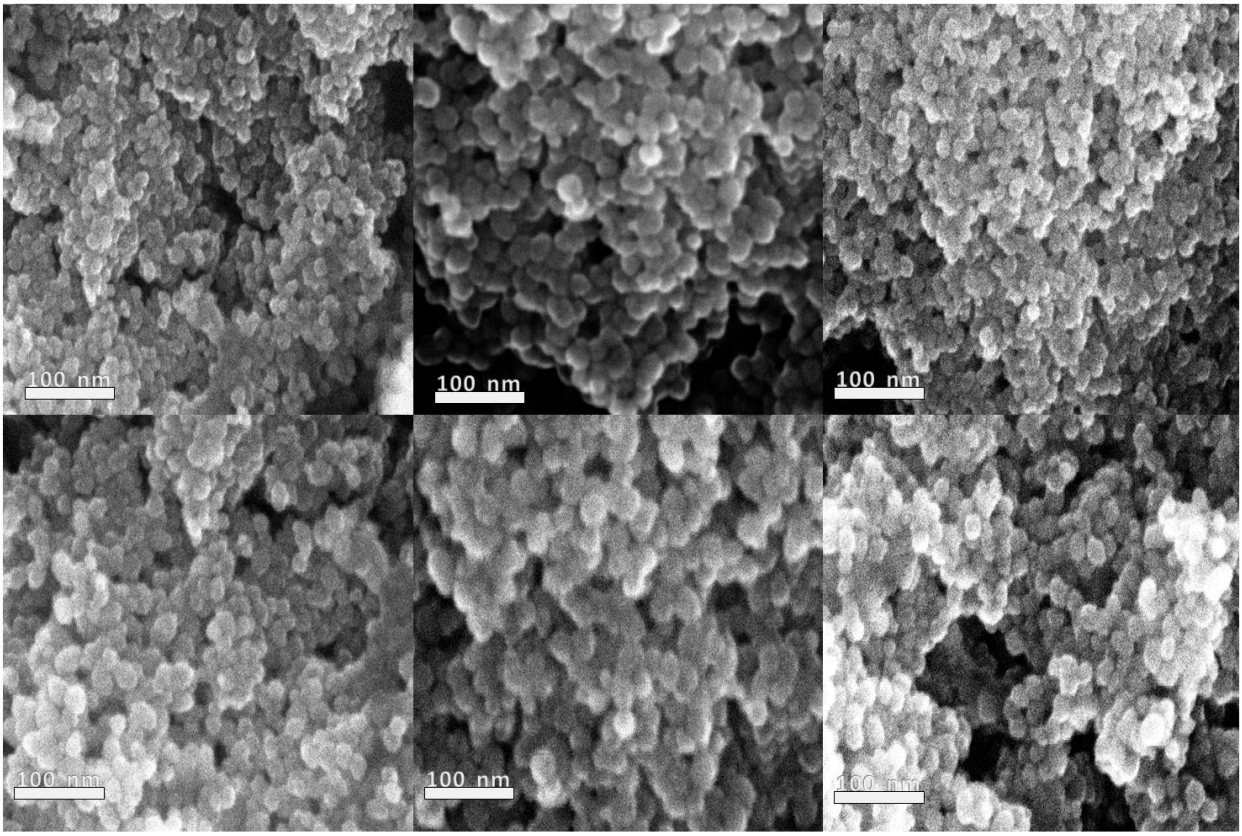

Fig.S1 SEM images of mesoporous SiO_2

Fig. S1 shows the SEM images of the samples after calcinations. Well dispersed spheres could be observed for the calcinated sample.

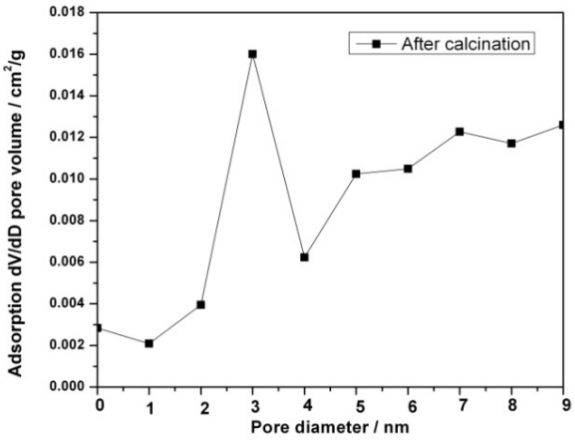

Fig.S2 BJH pore size distribution plot of mesoporous SiO_2

2.1 FTIR analysis of mesoporous SiO_2

The FTIR analysis of mesoporous SiO_2 is shown in Fig. S3. The peak at 3390 cm^{-1} is due to the OH stretching vibration of associated water molecule. Then the stretching vibration of Si-O-Si bond occurs at 1091 cm^{-1}. The peak at 948 cm^{-1} is due to the residual organic group and results in asymmetric vibration of Si-OH bonding. The vibration of Si-O occurs at 798 cm^{-1} and O-Si-O bonding is shifted towards lower wave numbers. The bond at 1490 cm^{-1} is related to the asymmetric scissoring mode of vibration of CTAB. After calcination this peak disappeared.

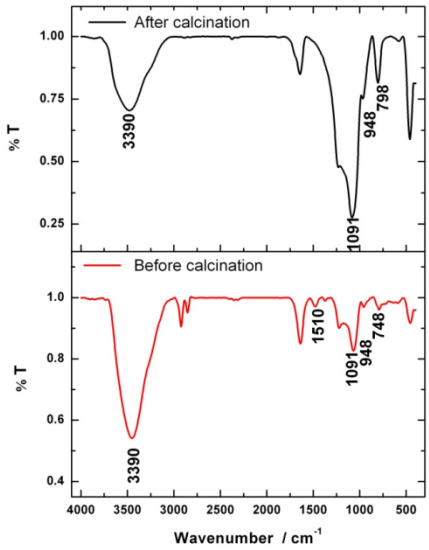

Fig.S3 FTIR analysis of mesoporous SiO_2