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 SiO₂

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