

Electronic Supplementary Information

Ion-triggered calcium hydroxide microcapsules for enhanced corrosion resistance of steel bars

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Supporting Figures and Tables:

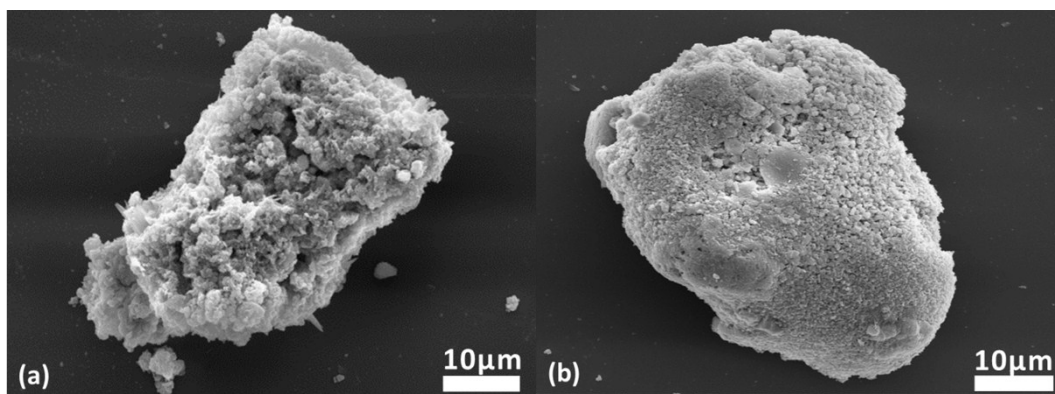


Fig. S1 The SEM images of the microcapsules treated with NaCl solution. (a) ILs/DVB = 3/1, (b) ILs/DVB = 1/3.

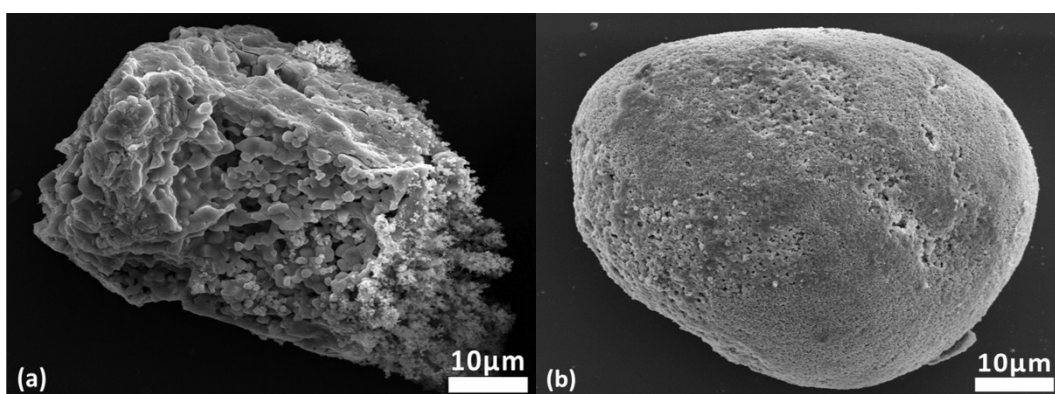


Fig. S2 The SEM images of the microcapsules treated by NaCl solution. (a) ILs/St/DVB = 2/7/1, (b) ILs/St/DVB = 2/1/7.

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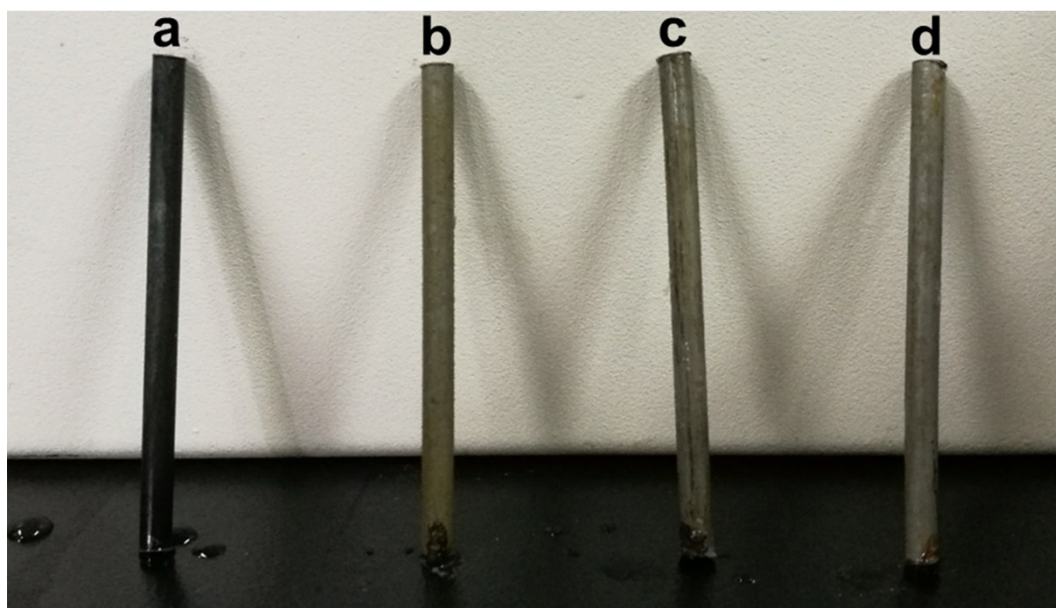


Fig. S3 The steel bars immersed in 6 wt% NaCl solution with different contents of microcapsules for 20 d: (a) 0 g, (b) 0.5 g, (c) 1 g, (d) 1.5 g.

Table S1

The contents of reactants

ILs/St/DVB	VEImPF ₆ ⁻ (g)	St(g)	DVB(g)	Ca(OH) ₂ (g)	MA(g)	AIBN(g)
1/0/0	1.00	0.0	0.000	1	0.000	0.01
9/0/1	0.90	0.0	0.091	1	0.009	0.01
3/0/1	0.75	0.0	0.228	1	0.022	0.01
1/0/3	0.25	0.0	0.682	1	0.068	0.01
1/0/9	0.10	0.0	0.819	1	0.081	0.01
2/8/0	0.20	0.8	0.000	1	0.000	0.01
2/7/1	0.20	0.7	0.091	1	0.009	0.01
2/5/3	0.20	0.5	0.273	1	0.027	0.01
2/3/5	0.20	0.3	0.455	1	0.045	0.01
2/1/7	0.20	0.1	0.637	1	0.063	0.01
2/0/8	0.20	0.0	0.728	1	0.072	0.01

Table S2

The chemical composition (wt%) of Q235 steel measured by XRF

Fe	C	Mn	Si	P	S
98.970	0.220	0.620	0.160	0.004	0.026