

Investigating the potential of hydroxyethylamino-di(methylene phosphonic acid) in inhibiting gypsum crystallization

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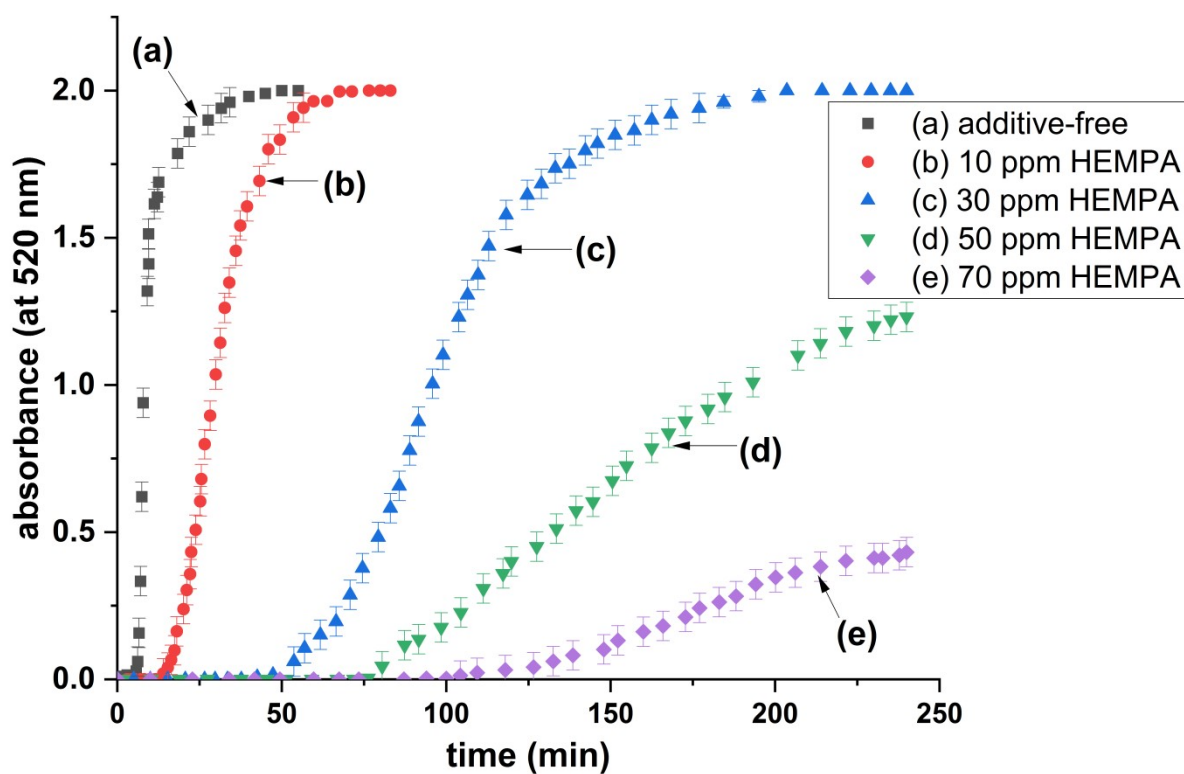


Fig. S1. Absorbance vs. time plots obtained in the absence and presence of different concentrations of HEMPA at pH ~ 4.

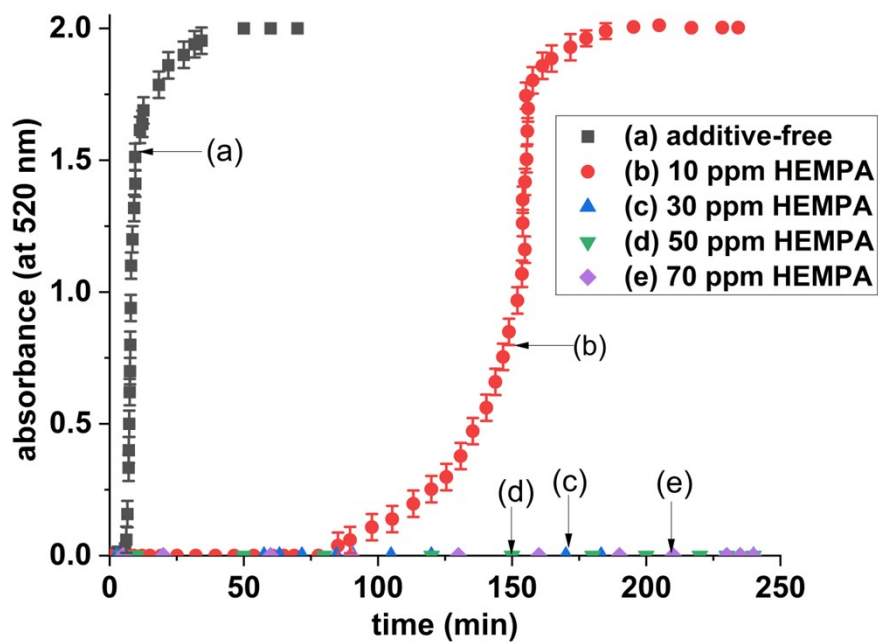


Fig. S2. Absorbance vs. time plots obtained in the absence and presence of different concentrations of HEMPA at pH ~ 7.

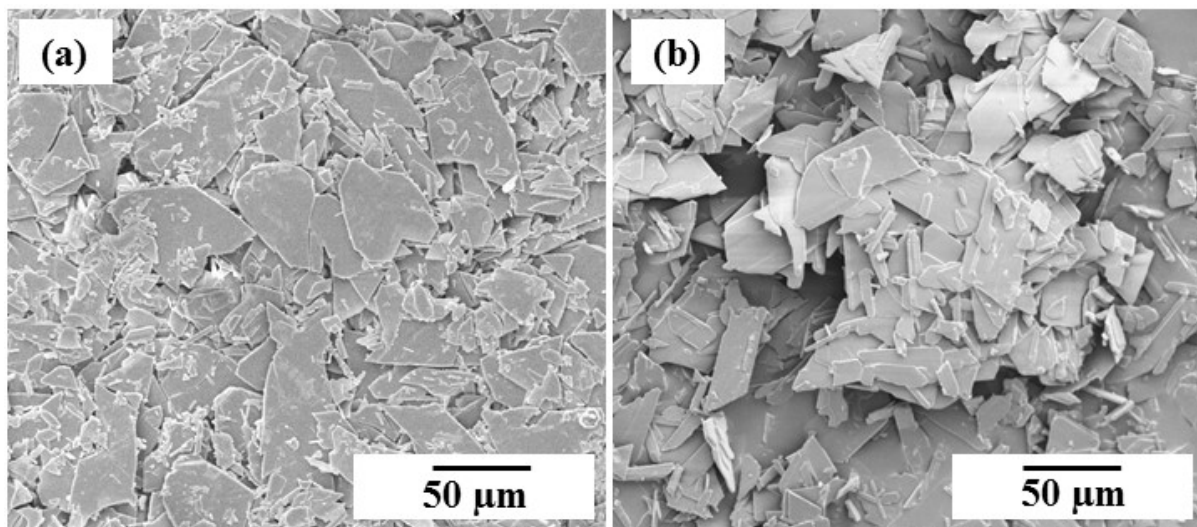


Fig. S3. SEM images of gypsum final products obtained from (a) additive-free at pH ~ 4; (a) additive-free at pH ~ 7;

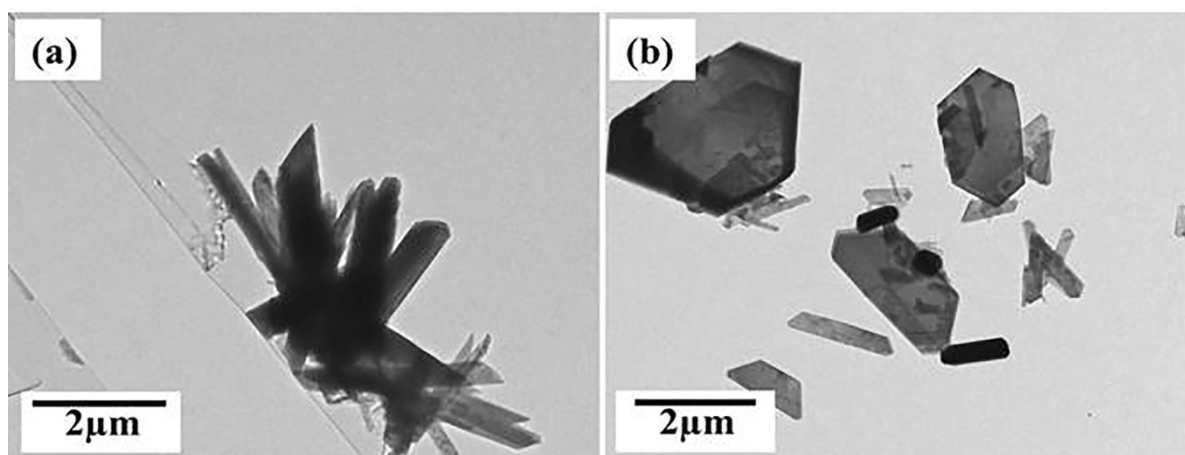


Fig. S4 HR-TEM micrograph of gypsum crystals gathered after 240 min from (a) additive-free; (b) 30 ppm HEMPA containing solutions (at pH ~ 4)

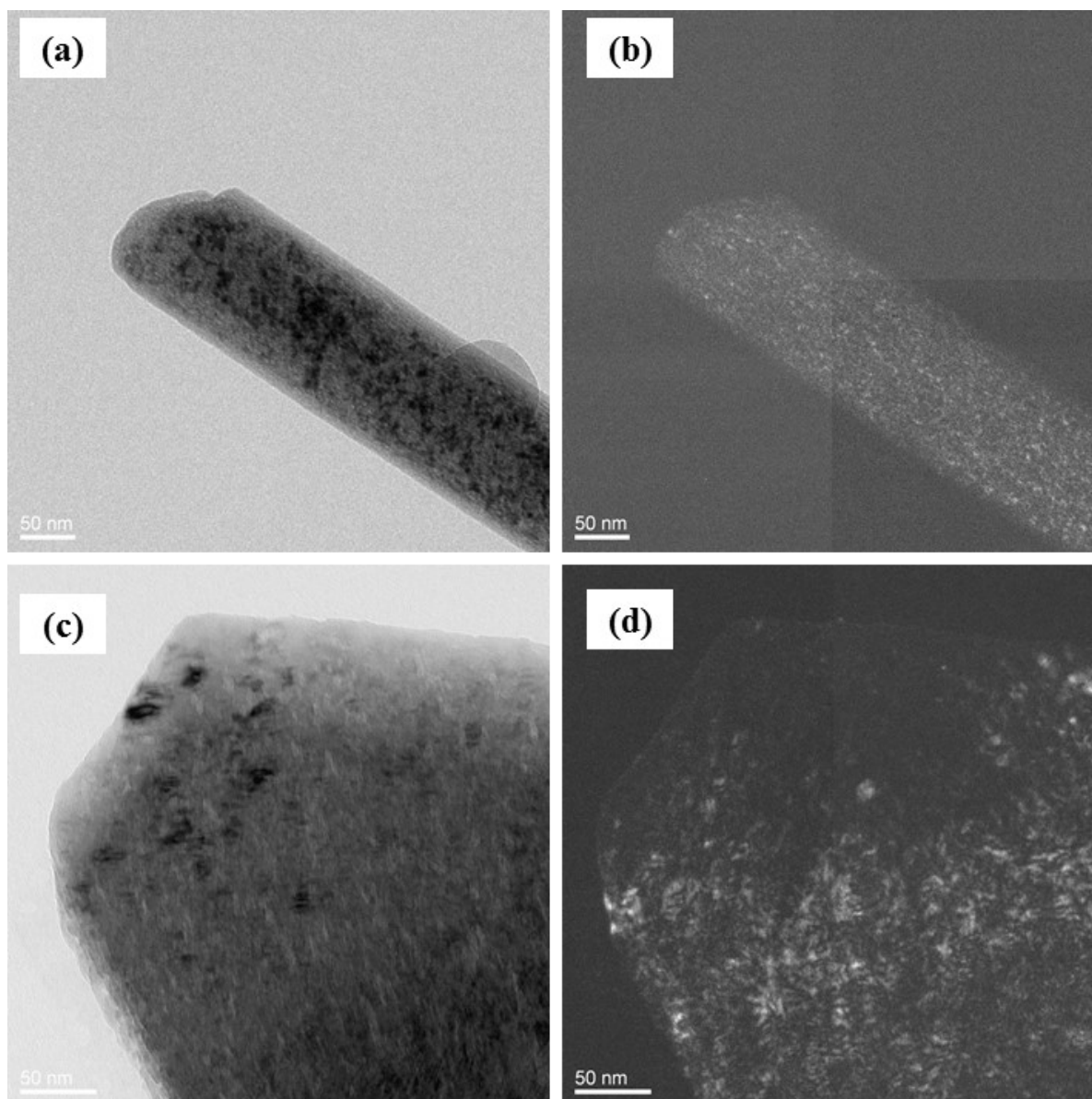


Fig. S5 HR-TEM micrograph of gypsum crystals gathered after 240 min; (a) bright-field image from a crystal produced without HEMPA (at pH ~ 4); (b) dark-field image from a crystal produced without HEMPA (at pH ~ 4); (c) bright-field image from a crystal produced with 30 ppm HEMPA (at pH ~ 4); (d) dark-field images from a crystal produced with 30 ppm HEMPA (at pH ~ 4).