# SUPPORTING MATERIALS

## SBA-15 and SBA-16 functionalized silicas as new carriers of niacinamide

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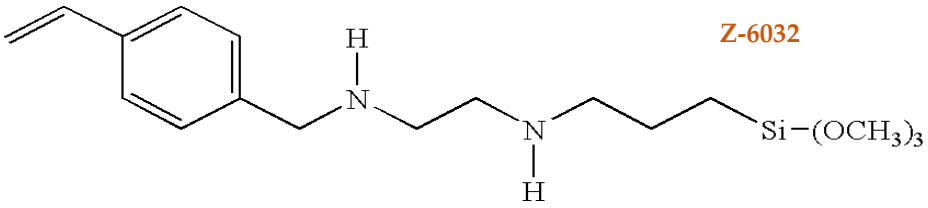



**Figure S1.** The chemical structure of (N-Vinylbenzyl)aminoethylaminopropyltrimethoxysilane (Z-6032).

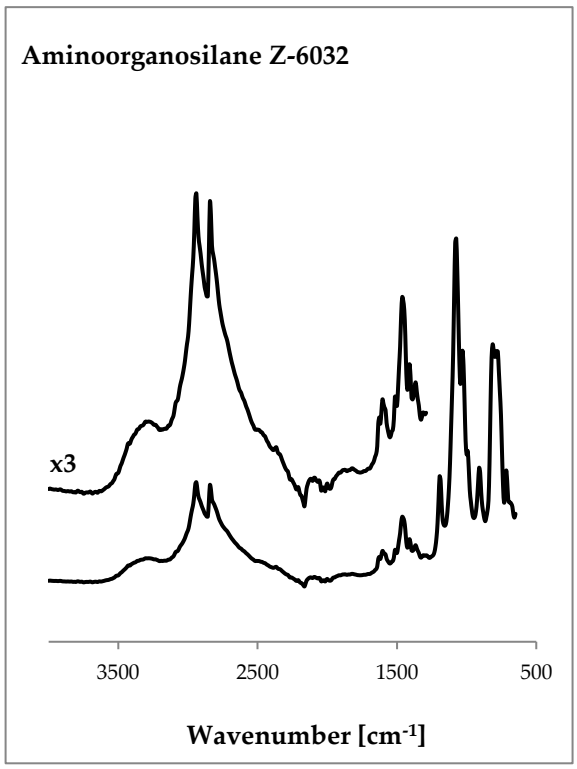



**Figure S2.** FT-IR spectra of Z-6032 aminoorganosilane.

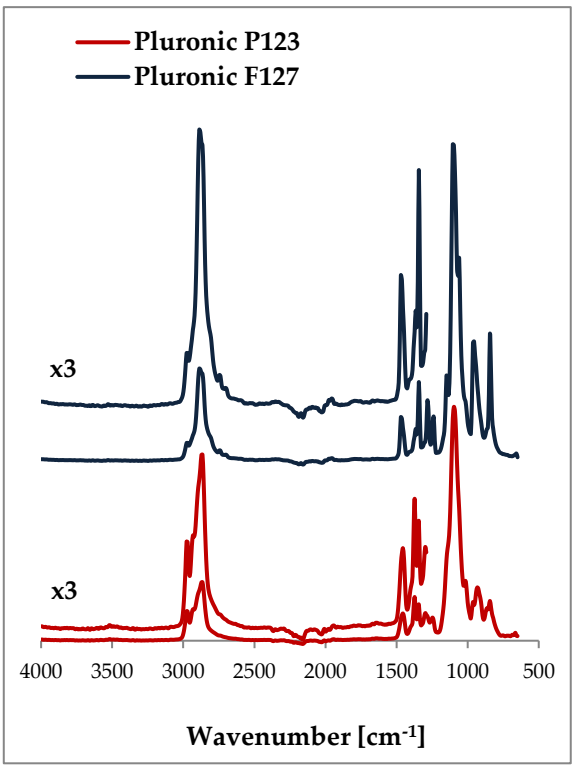



**Figure S3.** FT-IR spectra of Pluronic P123 and Pluronic F127.

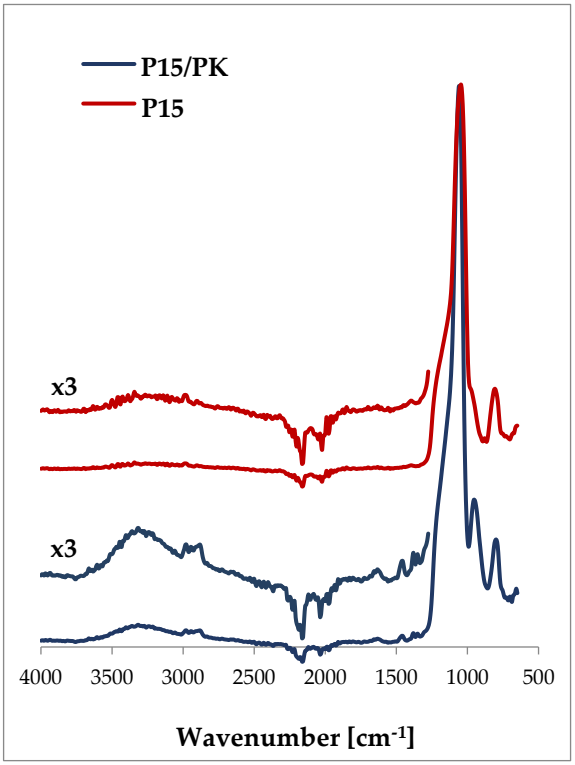



**Figure S4.** FT-IR spectra of as-synthesized and calcined SBA-15 materials.

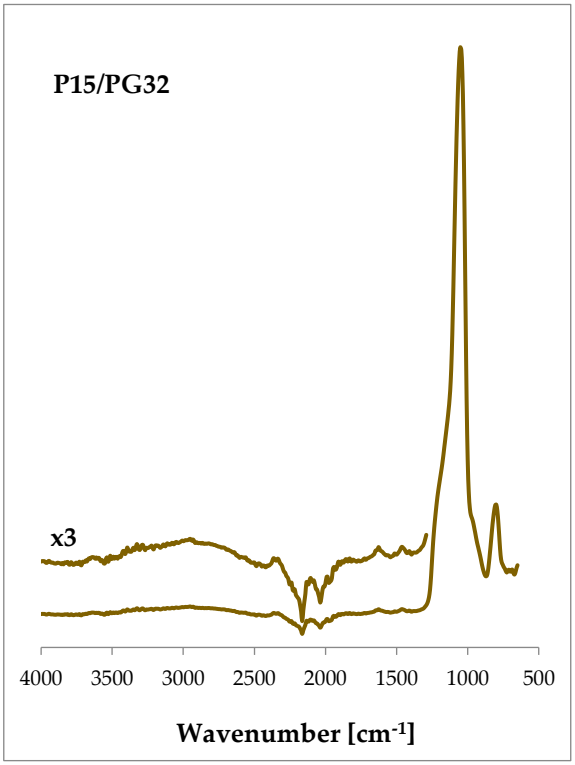



**Figure S5.** FT-IR spectra of SBA-15 material functionalized by grafting of Z-6032 aminoorganosilane.

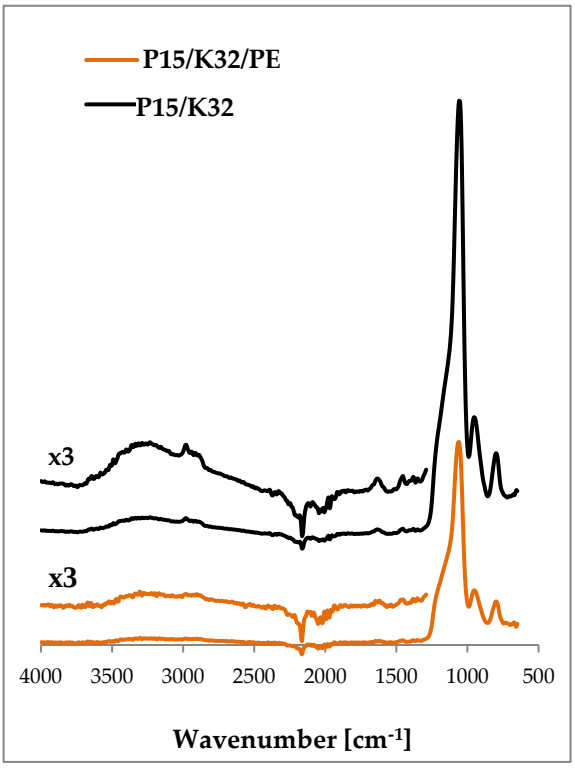



**Figure S6.** FT-IR spectra of as-synthesized and extracted SBA-15 materials functionalized with Z-6032 aminoorganosilane introduced by co-condensation.

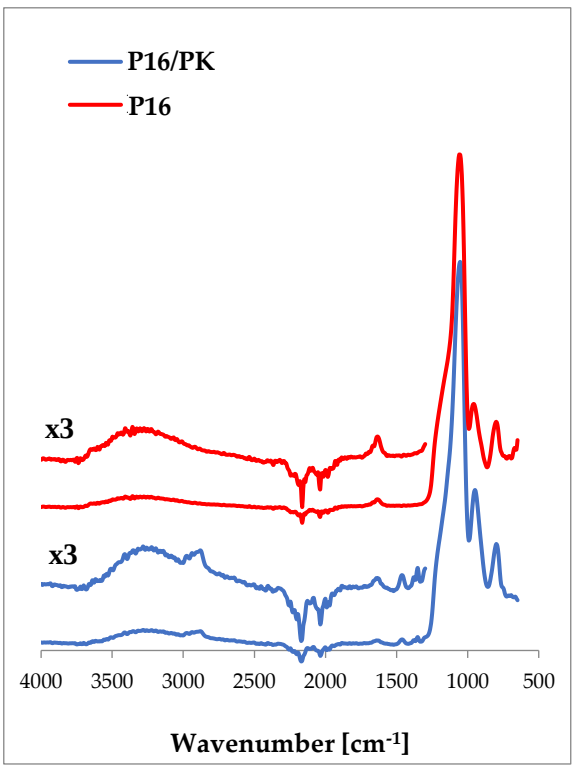



**Figure S7.** FT-IR spectra of as-synthesized and calcined SBA-16 materials.

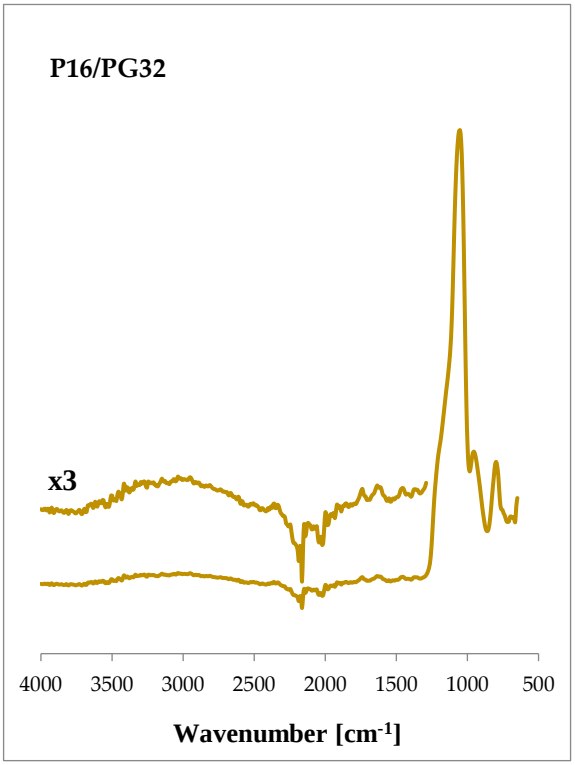



**Figure S8.** FT-IR spectra of as-synthesized and extracted SBA-16 materials functionalized with Z-6032 aminoorganosilane introduced by co-condensation.

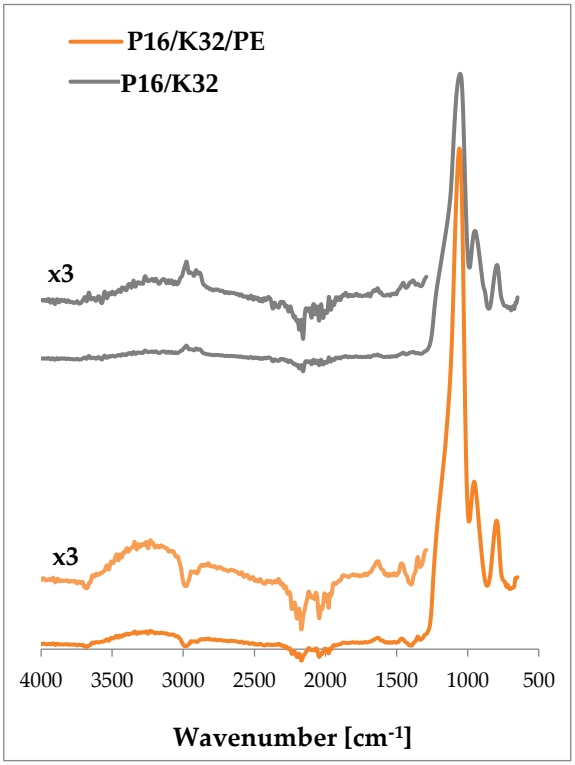
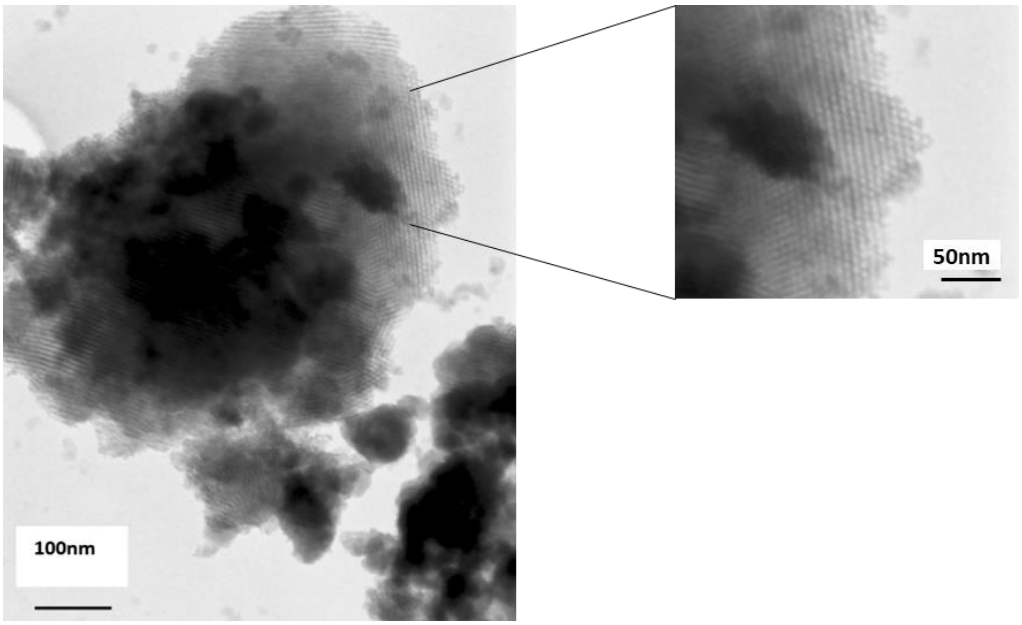
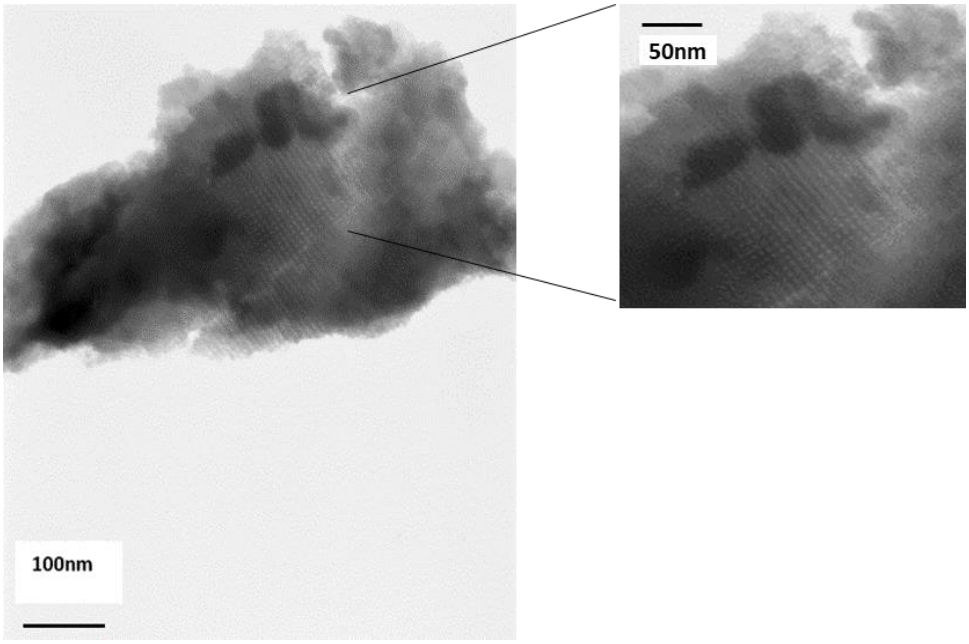



**Figure S9.** FT-IR spectra of SBA-16 material functionalized by grafting of Z-6032 aminoorganosilane.

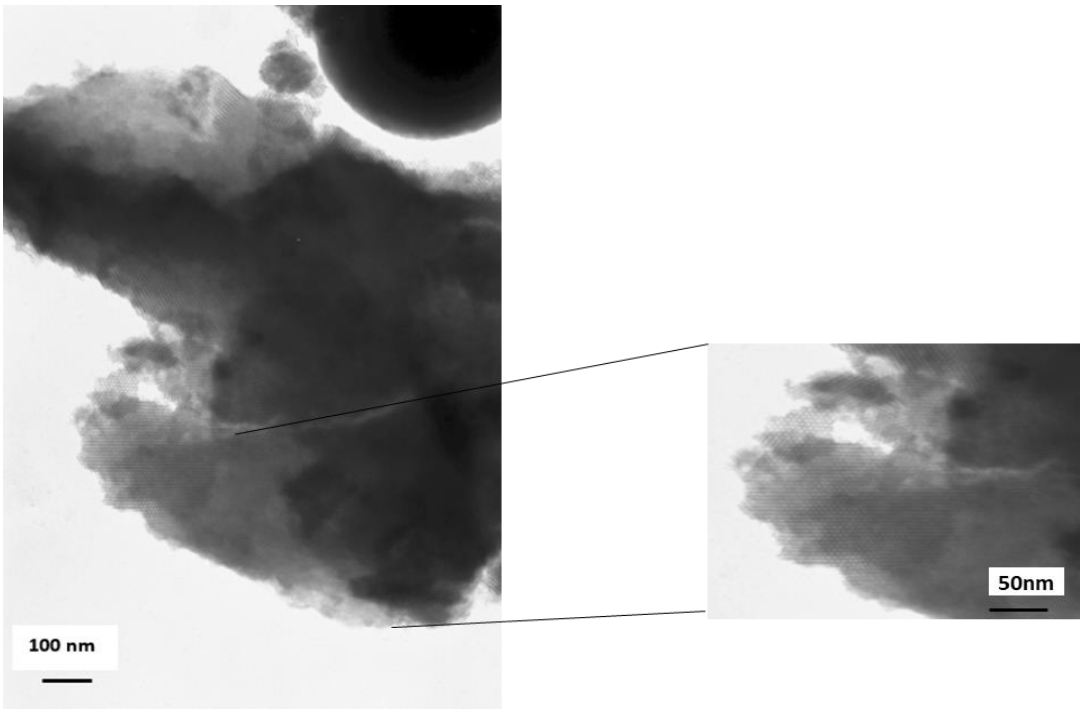
A)




B)



C)




D)

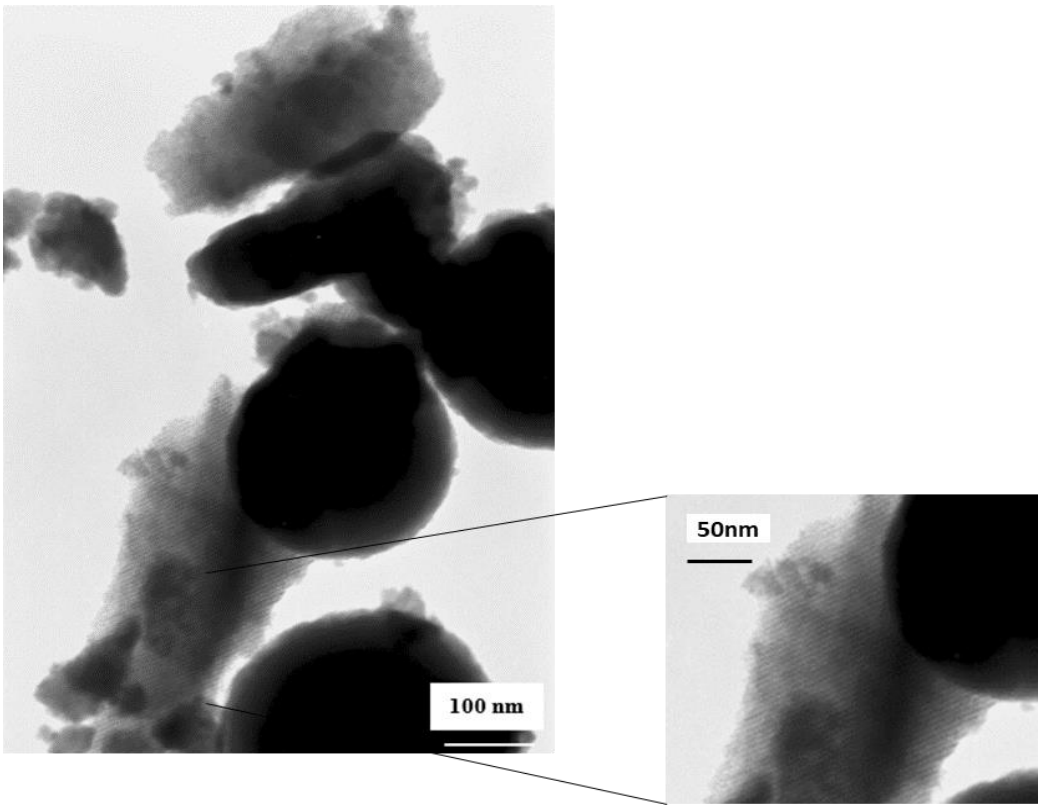



**Figure S10.** TEM photographs for: A) pristine SBA-15 material (P15/K); B) pristine SBA-16 material (P16/K); C) SBA-15 grafted with Z-6032 (P15/PG32); D) SBA-16 grafted with Z-6032 (P16/PG32).

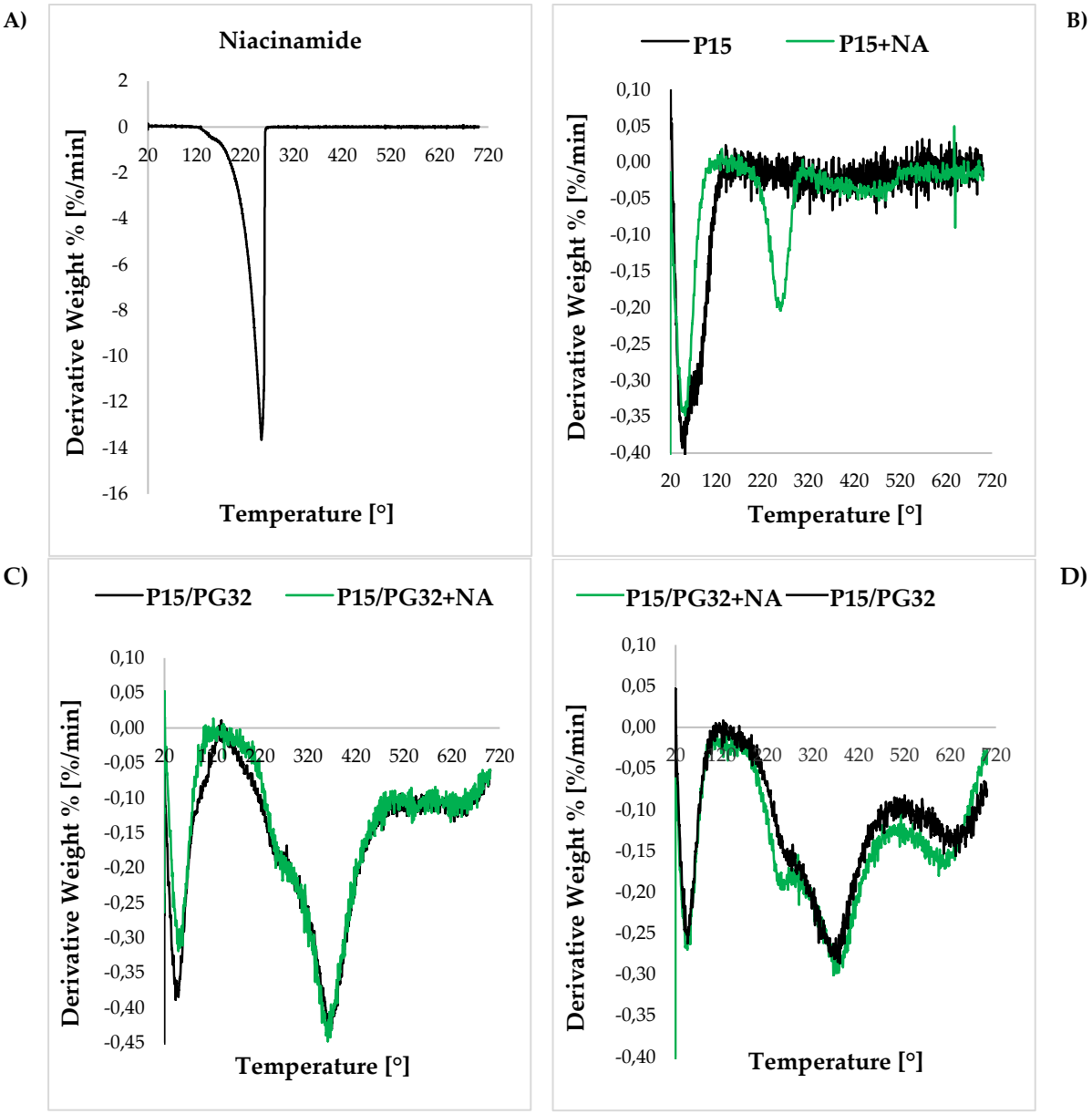



**Figure S11.** Results of thermogravimetric analysis of: A) niacinamide; B) pristine SBA-15 and loaded with niacinamide; C) SBA-15 modified with aminoorganosilane Z-6032 introduced by co-condensation and loaded with niacinamide; D) SBA-15 modified with aminoorganosilane Z-6032 introduced by grafting and loaded with niacinamide.

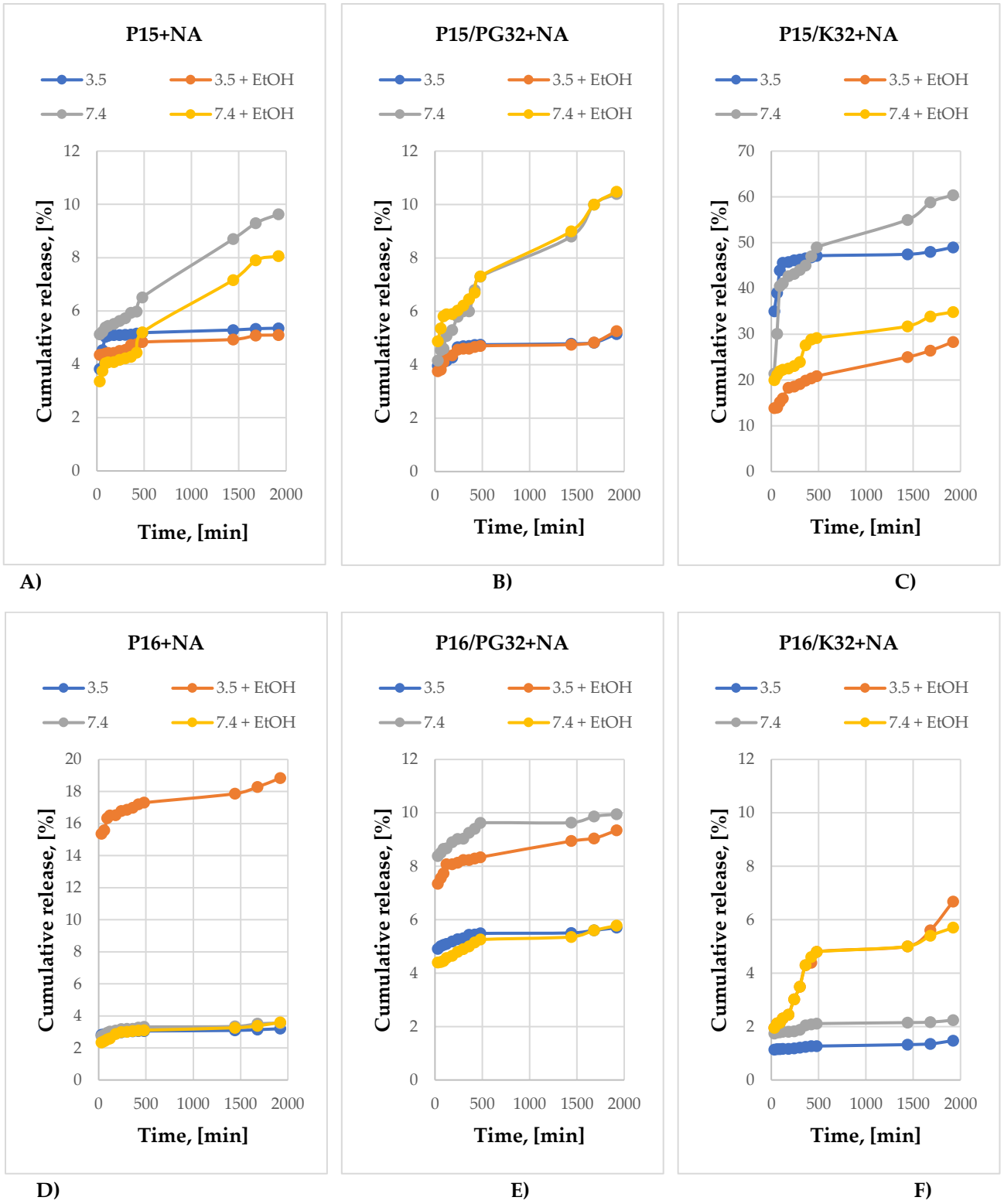



**Figure S12.** Niacynamide release profiles from mesoporous silica-based materials into acceptor fluids with different pH values.