Design of Aromatic Aldehyde Chitosan Derivatives for biological and Industrial Applications

S. Jatunov, A. Franconetti, M. Gómez-Guillén and F. Cabrera-Escribano*

Departamento de Química Orgánica, Facultad de Química,
Universidad de Sevilla, Apartado de Correos No. 1203,
41071 Sevilla, Spain

N-substituted chitosan derivatives **2**-**8** (**a, b**) have been synthesized by reductive amination from diversely functionalized aromatic aldehydes, some of them showing fluorescence, others being hydrophobic molecules and others owning antimicrobial activity. Incorporation degrees of these imino and amino chitosan derivatives were determined by liquid ^{1}H NMR and/or solid ^{13}C CP-MAS NMR, and they ranged from 13 to 60 %, depending on the starting aldehyde and reaction time.

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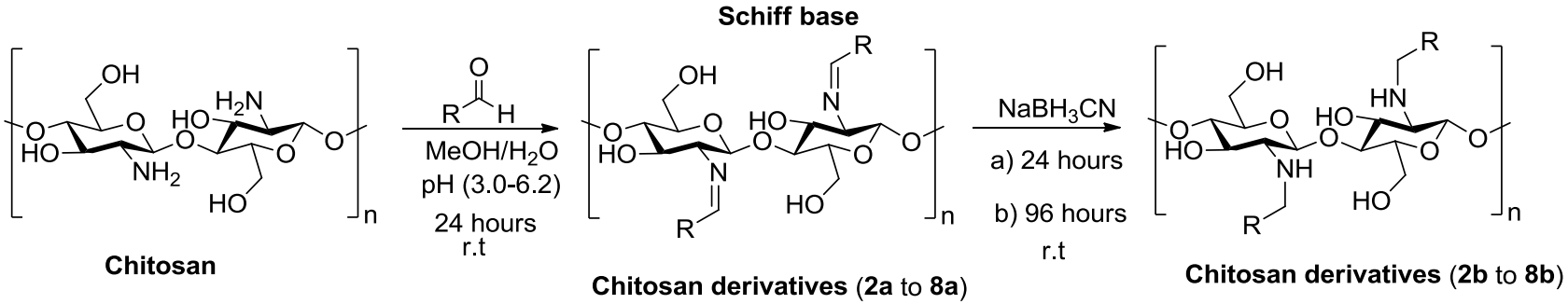

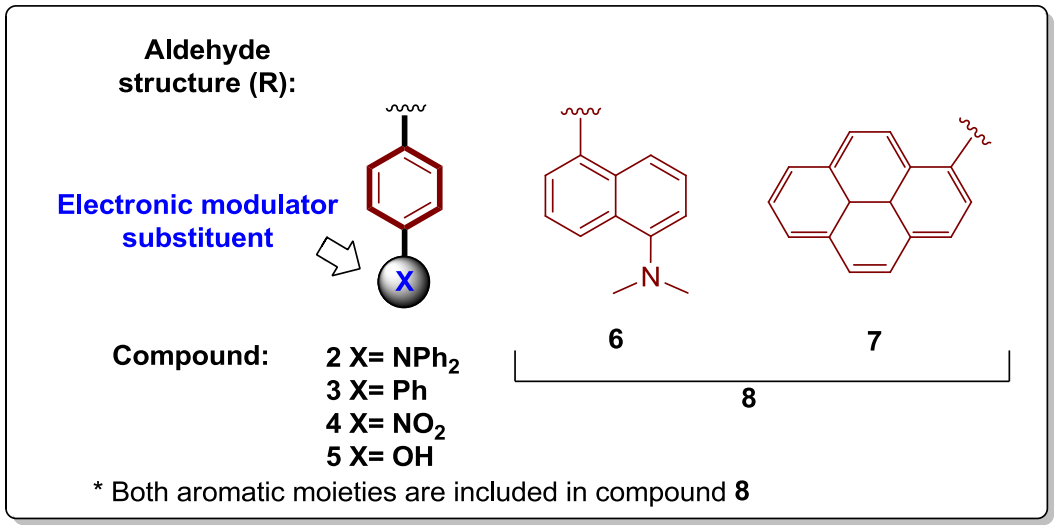

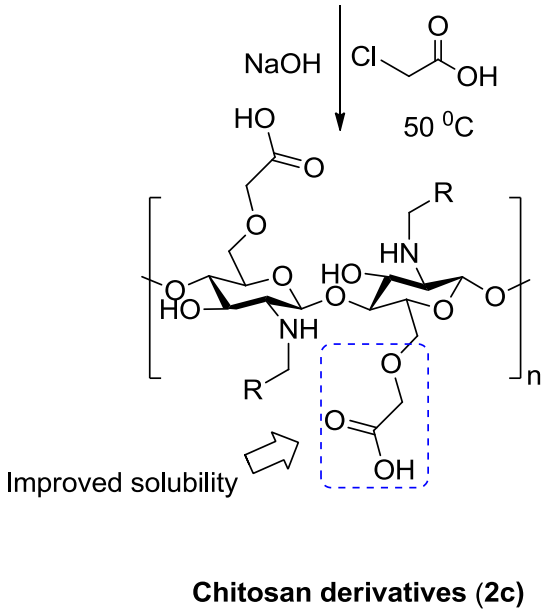

Synthesis of imino and amino chitosan derivatives **2-8**, including water soluble products