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## Investigation and Characterization of Inclusions Complex D-Glucosamine Derivative with $\beta$ -CD by NMR (<sup>1</sup>H, <sup>19</sup>F) and FT-IR

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In this Work, we were interested on the synthesis of D-glucosamine derivatives. Within two steps; Acylation of the 1,3,4,6-tetracetyl-amino-2-deoxy- $\beta$ -D-glucosamine hydrochloride and the regioselective substitution by thiophenol. Given that this compound has very poor aqueous solubility and to ameliorate this, we have synthesized an inclusion complex between derivative and  $\beta$ -CD, the preparation of the complex was carried out by two different methods (Physical mixture method and Solvent evaporation method).

The results of this work were confirmed by structural characterization by spectroscopic methods <sup>19</sup>F NMR, <sup>1</sup>H NMR and IR.

Finally we studied the solubility of derivative in an aqueous solution containing various concentrations of  $\beta$ -CD by UV-Visible spectroscopy which was deducted enhancement of the derivative solubility in the presence of  $\beta$ -CD.

### Recent Publications

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of N-Boc-D-Glucosamine-Ac by Irradiation via Microwave. International Journal of Chemical Engineering and Applications, 2016, 7 (3), 209.

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Nucleosides, Nucleotides, and Nucleic Acids, 2007. 26 (10-12), 1539-1542.

### Biography

Hocine Bouleghlem was born on November 30, 1975 in Skikda. He has been an assistant master in organic chemistry and research professor at the University of Mohamed Boudiaf, Msila Algeria since 2007. Mr. Hocine is a member in the Research Laboratory of Organic Chemistry Applied (LCOA), Group of Chemistry Bioorganique, Faculty of Science, Department of Chemistry, University Badji-Mokhtar 23000 Annaba, Algeria and a member of the research project: (Synthesis and Bioactive Molecules Development).

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