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Author: Abdulhadi Aljawish Isabelle Chevalot Jordane Jasniewski Joël Scher Lionel Muniglia



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1           **Enzymatic synthesis of chitosan derivatives and their potential applications**

2   Abdulhadi Aljawish<sup>a</sup>, Isabelle Chevalot<sup>b</sup>, Jordane Jasniewski<sup>a</sup>, Joël Scher<sup>a</sup>, Lionel Muniglia<sup>a\*</sup>

3   <sup>a</sup>*Université de Lorraine, Laboratoire d'Ingénierie des Biomolécules (LIBio), 2 avenue de la*  
4   *Forêt de Haye, TSA40602-F-54518 Vandœuvre-lès-Nancy, France*

5   <sup>b</sup>*Université de Lorraine, Laboratoire Réactions et Génie des Procédés (LRGP-UMR 7274), 2*  
6   *avenue de la Forêt de Haye, TSA40602-F-54518 Vandœuvre-lès-Nancy, France*

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8   Chitosan derivatives were performed by enzymatic tools under mild conditions.

9   The enzymatic tools were an alternative to toxic and non-specific chemical approaches.

10   The enzymatic process improved its properties and created new properties.

11   The enzymatic functionalization enlarged the field of its potential applications.

12   The chitosan derivatives were found to have very important applications in various fields.

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17   **Abstract**

18       Chitosan (aminopolysaccharide) exhibiting excellent functional properties was found to  
19   be a good natural source in various applications. However, practical use of chitosan was  
20   generally limited due to its weak solubility in neutral pH, its poor workability and low  
21   antioxidant activity. For a breakthrough in utilization, the functionalization of chitosan will be  
22   a key point, allowing the introduction of desired properties and enlarging the field of its

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