

Accepted Manuscript

Title: Preparation, characterization and antioxidant property of water-soluble ferulic acid grafted chitosan

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PII: S0144-8617(13)00359-7
DOI: <http://dx.doi.org/doi:10.1016/j.carbpol.2013.04.006>
Reference: CARP 7622



To appear in:

Received date: 3-1-2013
Revised date: 5-4-2013
Accepted date: 6-4-2013

Please cite this article as: Woranuch, S., & Yoksan, R., Preparation, characterization and antioxidant property of water-soluble ferulic acid grafted chitosan, *Carbohydrate Polymers* (2013), <http://dx.doi.org/10.1016/j.carbpol.2013.04.006>

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1 Preparation, characterization and antioxidant property of
2 water-soluble ferulic acid grafted chitosan

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16 **ABSTRACT**

17 The objective of the present work was to improve the antioxidant activity and
18 water solubility of chitosan by grafting with ferulic acid through a carbodiimide-
19 mediated coupling reaction. UV-Vis spectrophotometry, FTIR, ¹H NMR and
20 ninhydrin assay confirmed the grafting of ferulic acid onto chitosan at the C-2
21 position. Ferulic acid grafted chitosan – prepared using a mole ratio of chitosan
22 to ferulic acid of 1:1, reaction temperature of 60 °C, and reaction time of 3 h –
23 possessed the highest ferulic acid substitution degree, i.e. 0.37. Although ferulic

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