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FTIR

FTIR

FTIR

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- **cm⁻¹**

FTIR

Archive of SID

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(E-mail: N.Nazarneshad@UMZ.ac.ir)

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C-C

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Archive of SID

FTIR

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Jhons *et al.*

Philippou *et al.*

Zavarin

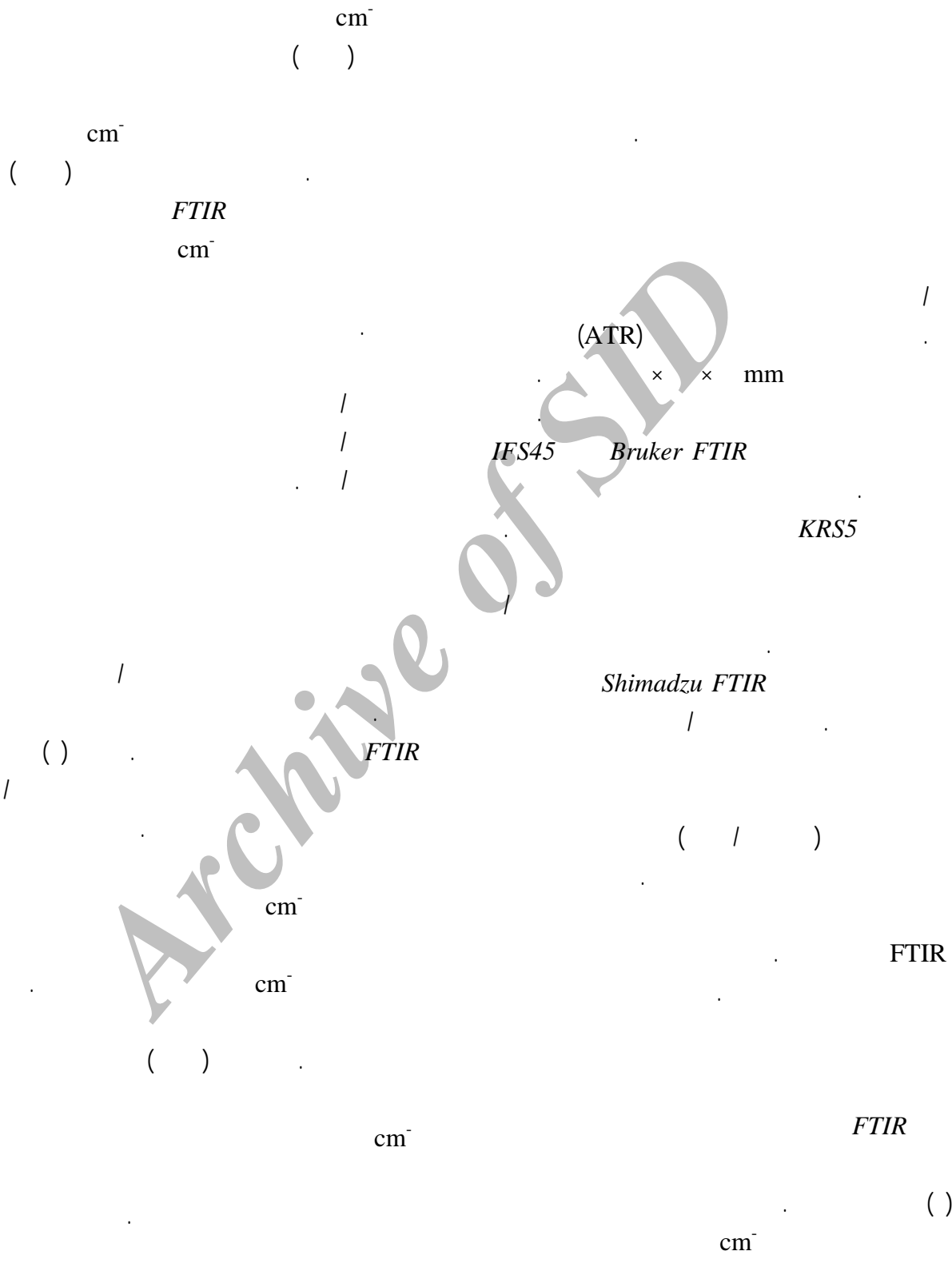
-Matuana *et al.*

David *et al.*

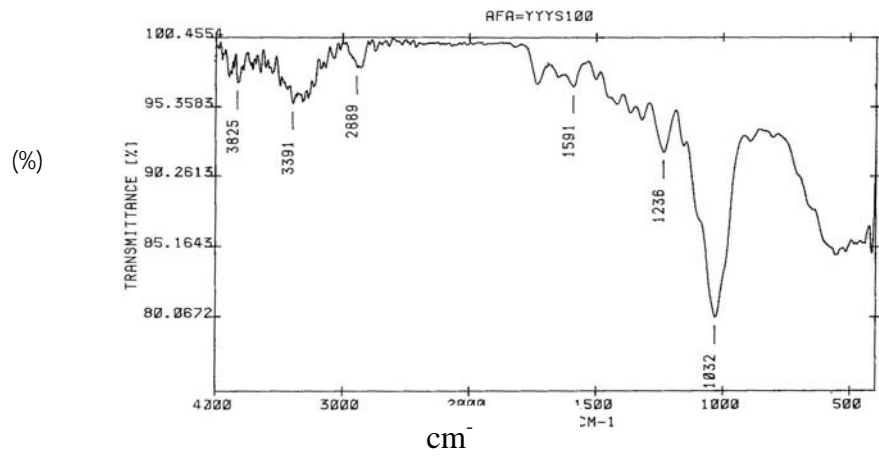
Fourier Transform Infrared

C C

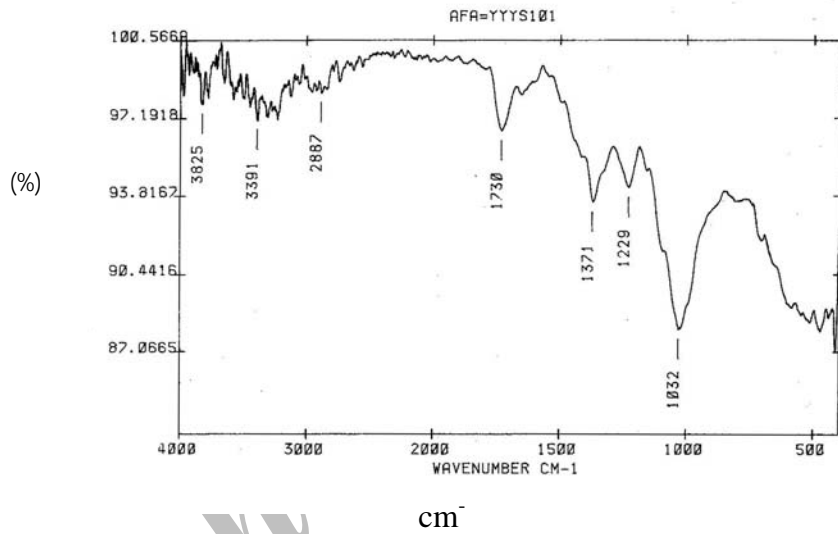
C



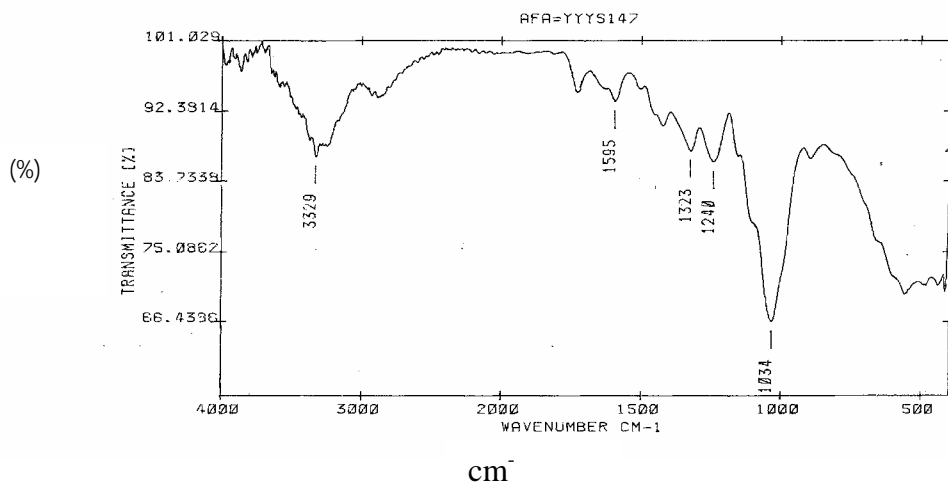
...()



(A)



(B)



(C)

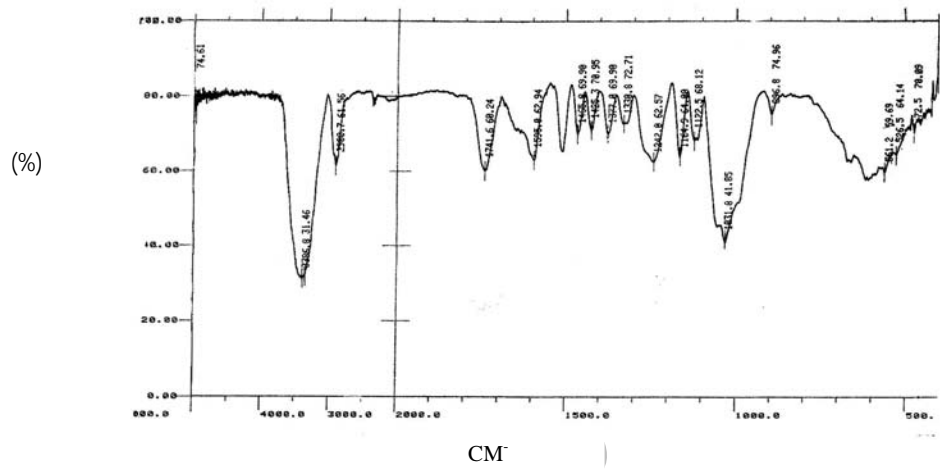
(C)

(B)

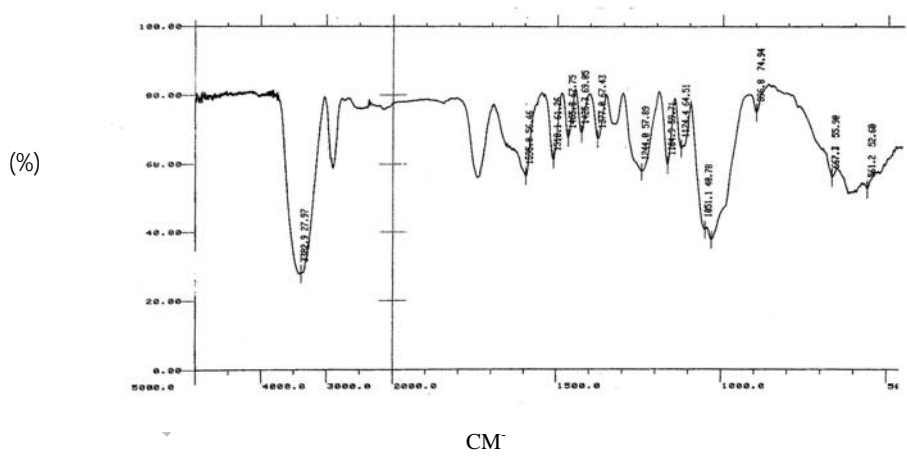
(A)

ATR

/ / ()
/ / cm N₂O₄

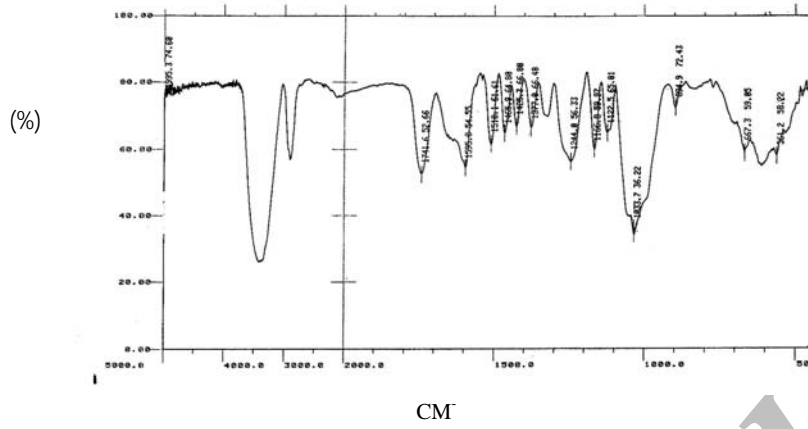


(A)

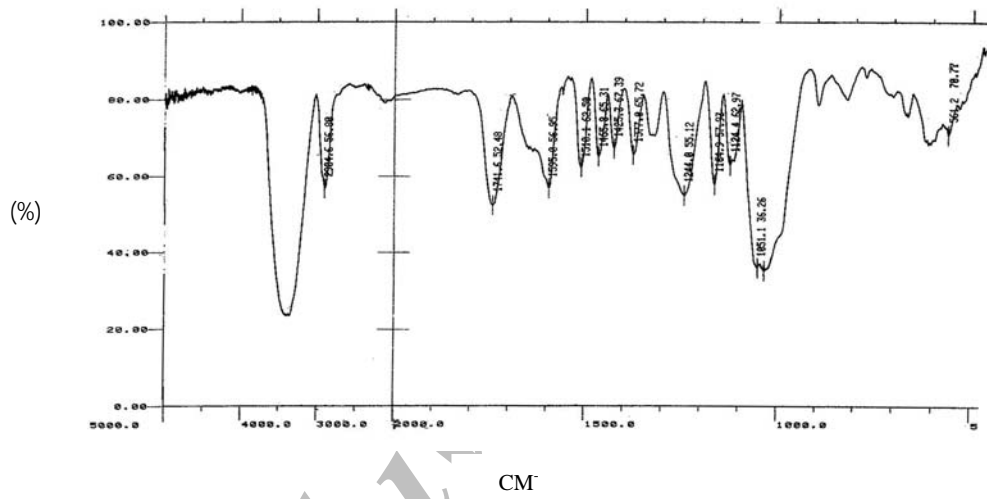


(B)

...()



(C)

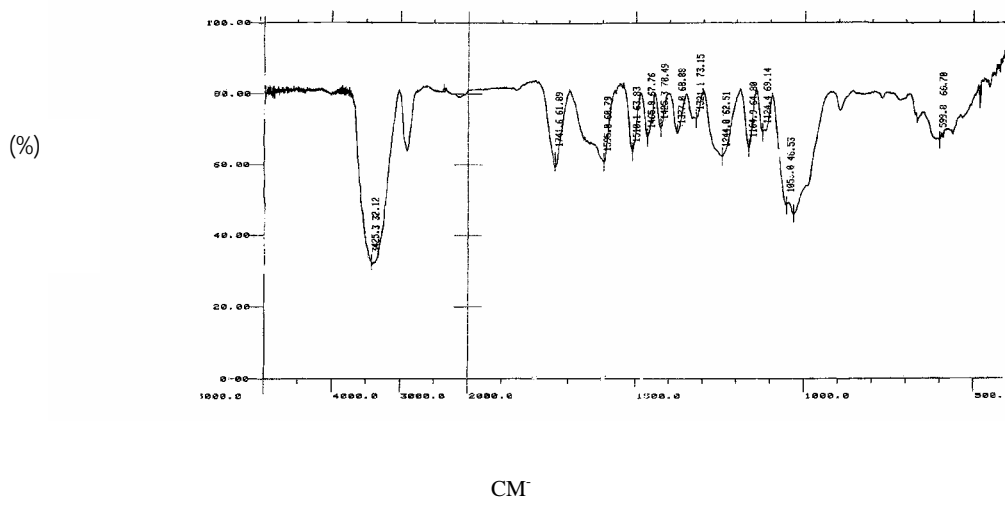
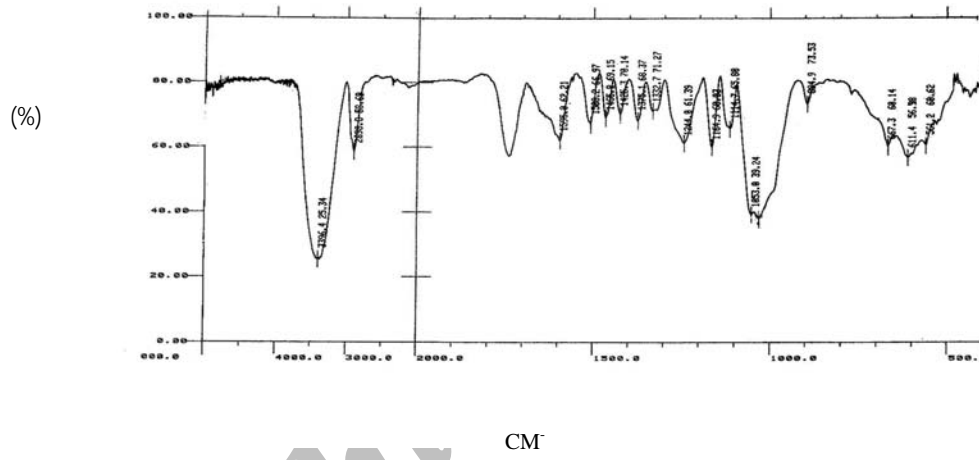
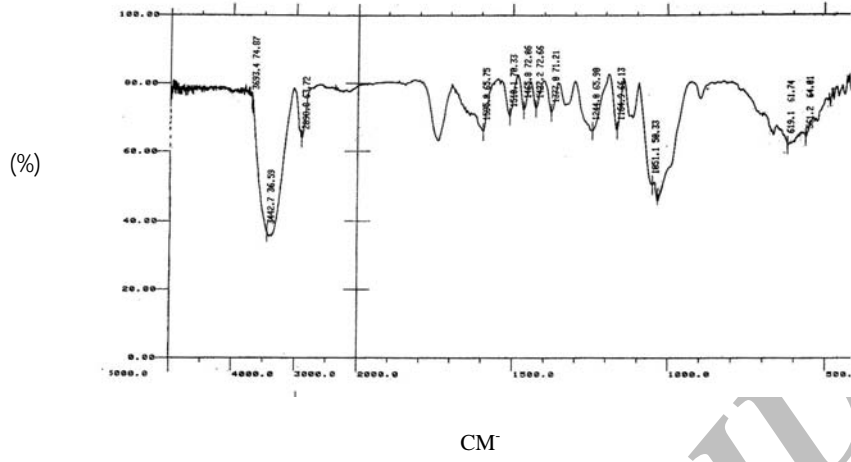


(D)

:D / :C :B (A)

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cm⁻¹



:C / :B :A

C-C **ATR**
cm⁻¹
cm⁻¹
cm⁻¹

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Investigating the Effectes of Oxidatives (Nitric Acid & Hydrogen Peroxide) on Wood Particle Surface Using FTIR Spectroscopy

N.Nazarnezhad¹

K.Doosthoseini²

S.A.Mirshokraie³

Abstract

This reaserch was conducted to investigate the effect of application of oxidative chemicals (nitric acid & hydrogen peroxide) on wood particles surface, using FTIR (Fourier Transform Infrared) spectroscopy. *P. deltoides* particles were each treated by two oxidizing agents; nitric acid and hydrogenperoxide at three levels of application. Then, in order to investigate the effect of the oxidation on wood particles, the spectrum of oxidized and those of control were taken while using FTIR spectroscopy. FTIR spectrum in treated samples exhibited an increase in the intensity of the absorbtion bands at 1730- 1740 cm^{-1} as related to carboxyl (COOH) group and in comparison with control. Therefore, as indicated by the spectrum, increasing oxidation rate increases absorbtion in COOH group. In addition, absorbtion rate in COOH group samples in nitric acid treatment is more pronounced than in samples treated with hydrogen peroxide.

Keywords: Oxidative, Nitric acid, Hydrogen peroxide, Wood particle, FTIR, Selfbonding.

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