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(II)

(Chemical Oxygen Demand)

(OH

.(Glaze et al.1987)

OH

(AOPs)

Advanced Oxidation Processes

COD

2,4-DCP

Oxidation – Reduction Potential (ORP)

$E^{\circ} = + 3.06 \text{ V}$

Fe^{2+} H_2O_2

2,4-DCP

OH

)

(

:(Freeman 1998)

() AOPs

DCP

COD BOD₅

BOD₅/COD

H_2O_2 /

UV /

H_2O_2 / UV /

UV/ H_2O_2

Fe^{2+} / H_2O_2

H.J.H Fenton

()

(Fenton Reaction)

(Fenton Reagent)

.(Nesheiwat et al. 2000)

OH

H_2O_2

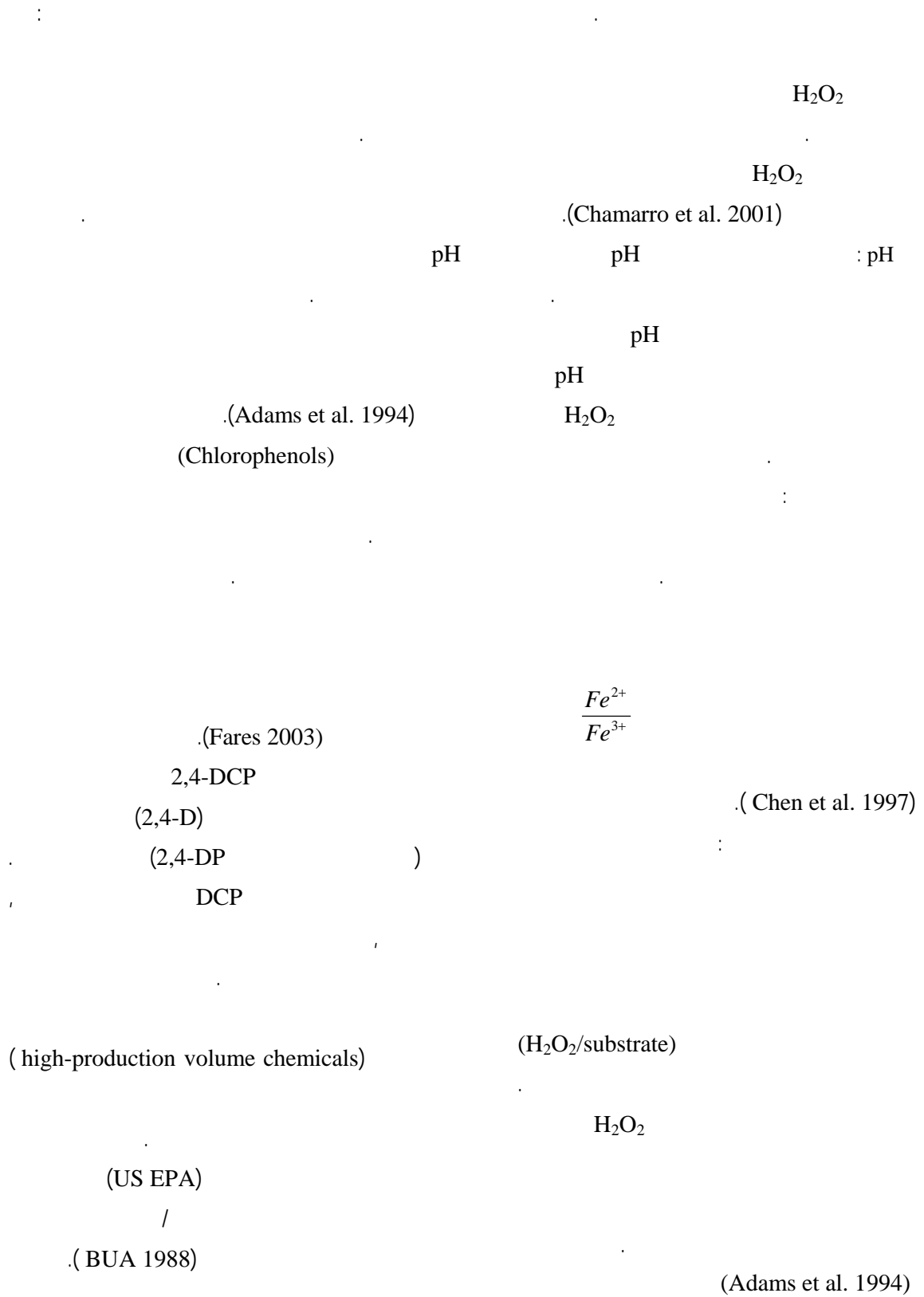
2,4-)

(DCP

.(Bigda 1995)

2,4-DCP

()



Fe=15 mg/L

2,4-DCP=100 mg/L

pH

mg/L

2,4-DCP

pH=3

Fe=15 mg/L

(II)

() H₂O₂

H₂O₂

Fe=15 mg/L

pH

)

2,4-DCP=50 mg/L

pH (

2,4-DCP=100 mg/L

pH

H₂O₂

H₂O₂

H₂O₂ (II)

H₂O₂

COD

(Chamaro et al. 2001)

H₂O₂ =50 mg/L

BOD₅ COD

H₂O₂

COD

(APHA 1998)

(II)

H₂O₂=50 mg/L

COD %

Fe(II) =5 mg/L H₂O₂=50 mg/L

COD %

COD

% COD

COD

Fe(II) =5 mg/L

2,4-DCP=100 mg/L

BOD₅

H₂O₂=50, 75, 100 mg/L

mg/L		COD		COD	
BOD ₅	/ /	/ /	mg/L	H ₂ O ₂	.
/ / /	mg/L	.()		COD	
COD					% % %
COD %					
BOD ₅ /COD				COD	(II) H ₂ O ₂
/					
COD					
				(II)	H ₂ O ₂ = 100 mg/L
Fe=15 mg/L H ₂ O ₂ =100 mg/L				COD	
BOD ₅ /COD					%
.() /					5 mg/L
				%	COD
BOD ₅ /COD					
				H ₂ O ₂ = 100 mg/L	
				10 min	Fe(II) = 5 mg/L
				%	COD
BOD ₅ /COD		Fe=10 mg/L H ₂ O ₂ =50 mg/L		COD	
/		2,4-DCP=50 mg/L			
					.()
H ₂ O ₂ =100 mg/L Fe=15 mg/L					
/		BOD ₅ /COD			H ₂ O ₂
		.()		COD %	%
BOD ₅ /COD				COD	(II)
Fe=15 mg/L					
Fe=15 mg/L				H ₂ O ₂ =75 mg/L	
BOD ₅ /COD					Fe(II) = 10 mg/L
				COD	2,4-DCP=100 mg/L
BOD ₅ /COD					

H₂O₂

pH (II) 2,4-DCP=100 mg/L
 / / / /
 .() pH 2,4-DCP=100 mg/L BOD₅/COD
 pH 2,4-DCP=100 mg/L H₂O₂=100 mg/L /
 Fe=10 mg/L H₂O₂=75 mg/L Fe=15 mg/L
 COD H₂O₂ (BOD₅/COD)
 Fe H₂O₂
 pH Fe²⁺ H₂O₂
 pH / .() /
 BOD₅/COD
 (II)
 %
 %
 .(Ma et al. 2000) H₂O₂
 H₂O₂
 pH
 .(Bum et al. 1999) BOD₅/COD
 pH=3-4 pH
 pH
 .(Chamarro et al. 2001) NaOH pH
 pH
 pH 2,4-DCP=50 mg/L

/...

%

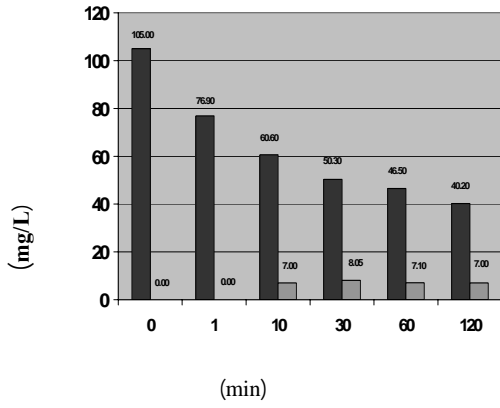
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COD

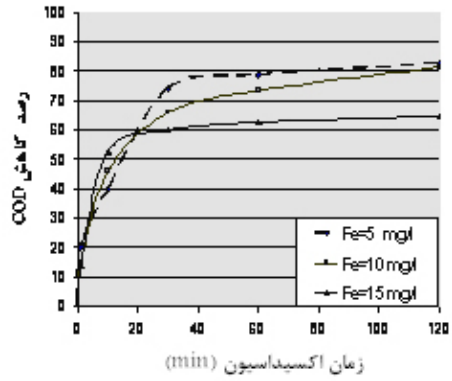
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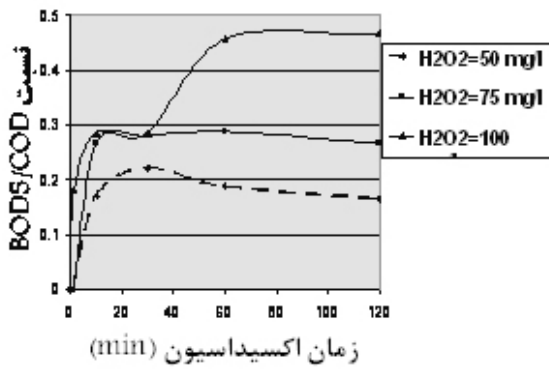
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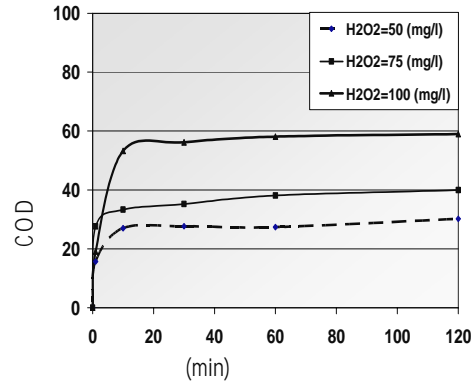
BOD₅ COD
 2,4-DCP=100 mg/L
 Fe=10(mg/L) H₂O₂=75(mg/L)



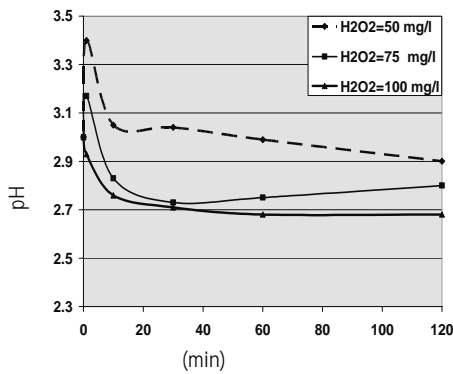
COD Fe(II)
 H₂O₂=50 mg/L 2,4-DCP=50 mg/L



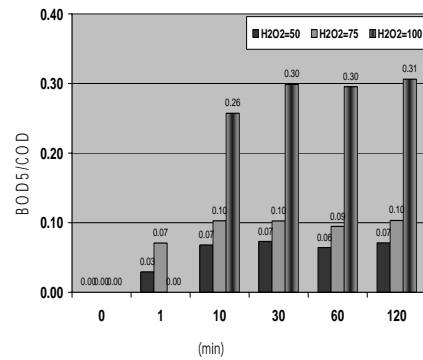
BOD₅/COD
 Fe=15 mg/L H₂O₂ 2,4-DCP=50 mg/L



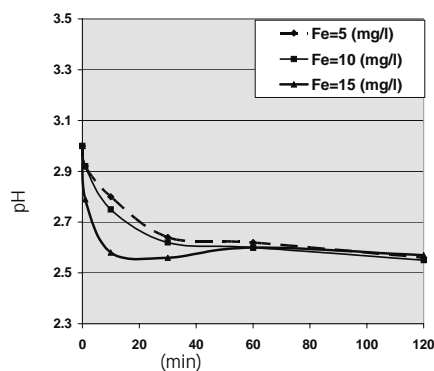
COD H₂O₂
 Fe(II)=15 mg/L 2,4-DCP=100 mg/L



pH
 2,4-DCP=100 mg/L
 Fe(II)=10 mg/L



BOD₅/COD
 2,4-DCP=100 mg/L
 Fe=15 mg/L H₂O₂



pH :
2,4-DCP=100 mg/L

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