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(NJC)

(2005/6/22)

(2004/ 3 / 6)

(captopril)

(angiotensin converting enzyme inhibitors (ACE inhibitors) (capotine)

[(3 – Mercapto -2- methyl – propionyl)] – L – proline copper (II)

760

2.13 , 0.35% ,(% 8.78-0.50)

. (Cu⁺²: Captopril)1:2**Abstract**

extraction of the drug Captopril from capotine (angiotensin converting enzyme inhibitors (ACE inhibitors)) with hot water was studied .Reaction of Captopril with Cu⁺² ion was also studied and found to forms a complex [(3 – Mercapto -2- methyl – propionyl)] – L – proline copper (II) The new analytical method based on measurement the molecular absorbance in UV-Visible Spectrum at $\lambda_{max}=760$ nm. Optimum pH and divalent copper ion concentration were estimated . Linearity (0.50-0.78%) , Detection limit 0.35% , Relative standard deviation %RSD (2.13) were determined . the complex is identified with UV-Visible and IR spectra .the mole ratio also investigated and found 1:2 (Cu⁺²: Captopril).

(detoxication agents)

, (protection agents)

, (Fluka AG) Cyclohexane
(BDH-AnalaR) NaOH HCl 37%

Capotine

(1)

:

(7)

(2-6)

.1

(9)

(8)

Shimadzu UV-Visible

(10)

.Spectrophotometer

(12-14)

(11)

Pye- .2

(15)

Unicam SP3-300 Infrared

. Spectrophotometer

Sartorius .3

(-SH)

. 100ML

()

(¹⁶)(II)

, (¹⁷)(II)

()

1

40

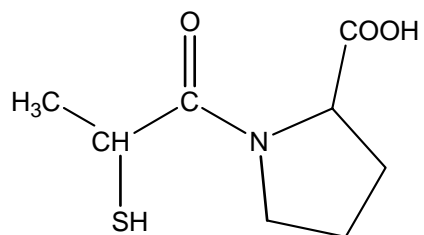
(II)

.⁰ 102-106

.(1)

CuCl₂.H₂O , (SDI)

Ethanol absolute 99.9% , (BDH)



1-(2-Mercapto-propionyl)-pyrrolidine-2-carboxylic acid

(1)

(4-3)

2:1 :

[II]

[II]

20 (0.005)

1

2

0.426

6

(0.0025)

(1)

()

(2)

(4)

Captopril

Capotine

IR Spectrum cm^{-1}										
Comp.	O-H stretch carboxyl	CO stretch carboxyl	CO stretch	COO bend	S-H	C-S	C-H	Cu-O	Cu-S	C=C and C=N
Ligand "Captopril"	3100-2800 (br).	1730 (v.s)	1580 (s)	595 (s)	2550 (w)	670 (w)	298-2840 (w)	-	-	1580 (s)
Complex [II] Cu[Captopril] ₂	3400-3300 (br)	1700 (s)	1580(s)	-	-	-	-	430,520 (w)	340,380 (w)	-

. [II]

:(1)

- OH

-3

[II]

3100 – 2800 cm^{-1}

Captopril

340, 520 cm^{-1}

-4

Cu-

S HO

O

1580 cm^{-1}

-5

(1)

-:

[II]

C=O

S-H

-1

2550

[II]

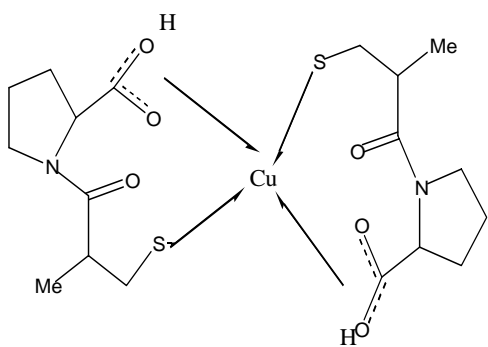
.cm⁻¹

-2

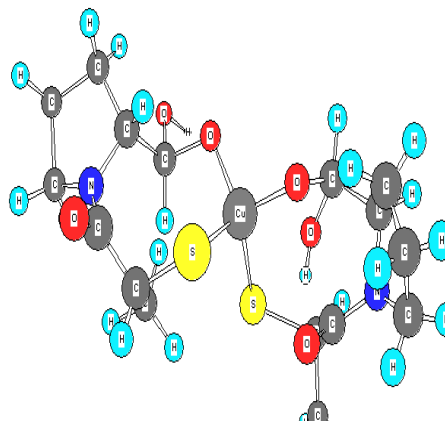
[II]

- 6

340 380 cm^{-1} 3300-3400 cm^{-1}

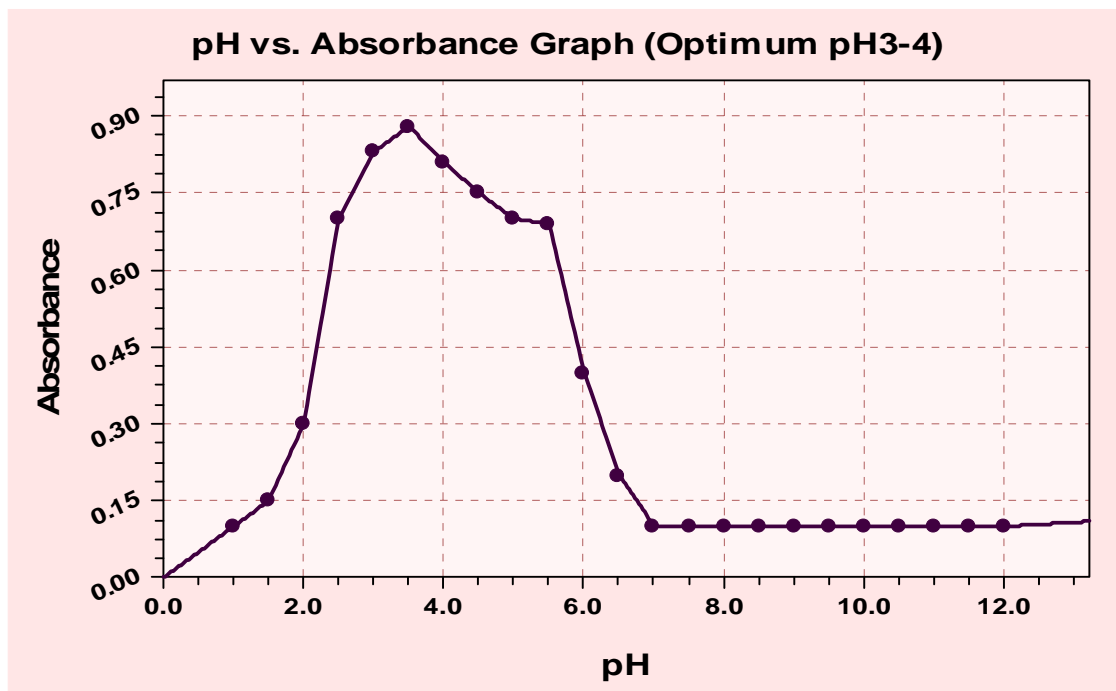


[II] : (2)



(3)

(PH=3.5)



(\ 4)

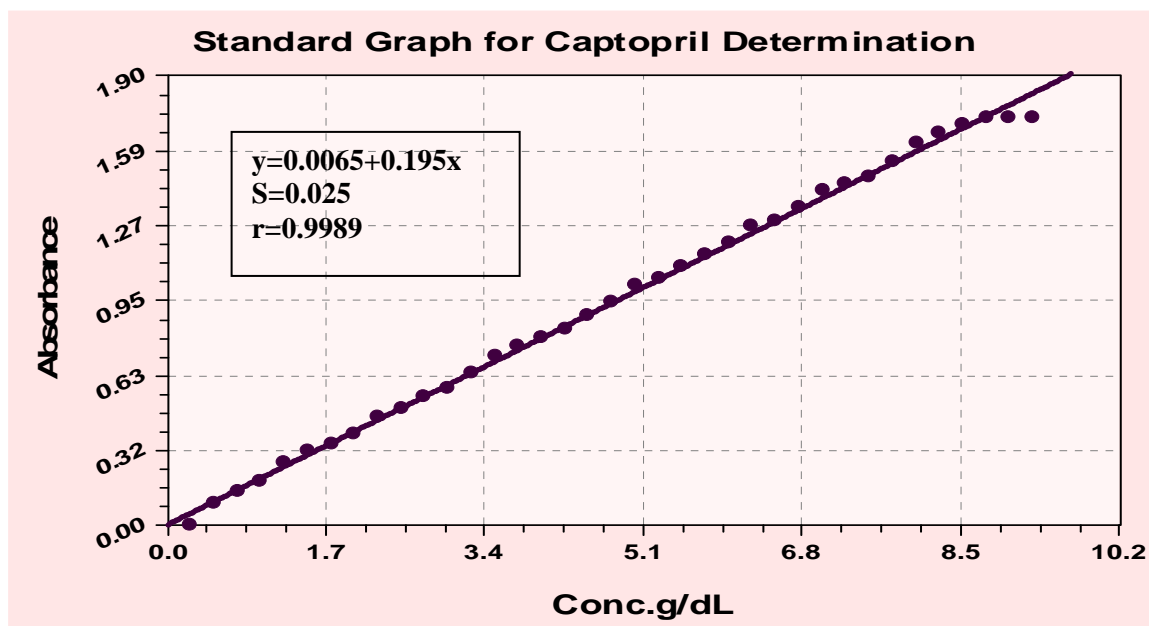
:(3)

760

(4)

760

(8.78%,0.5%)



) 760 :(4)
(

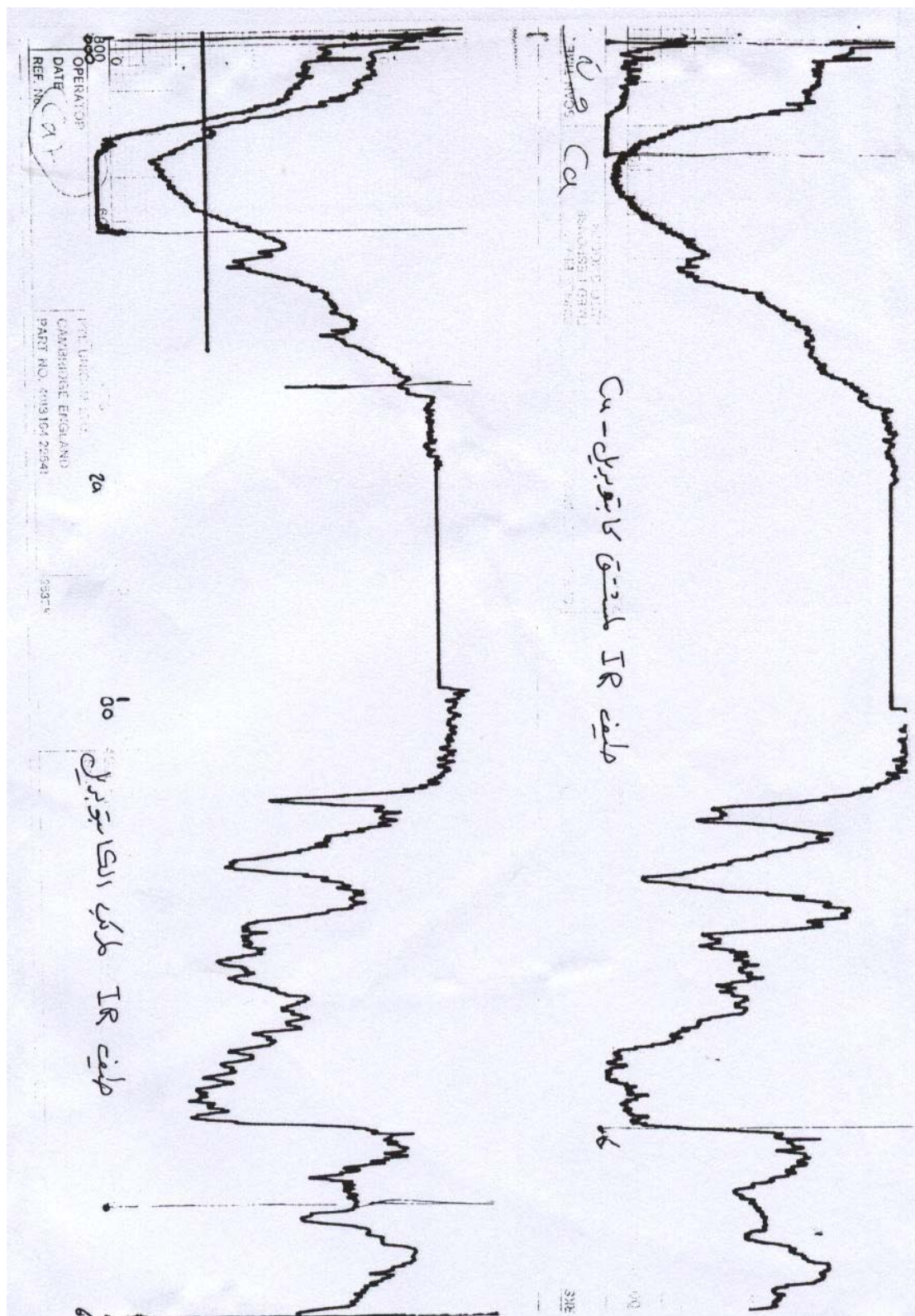
:(2)

λ max nm	Linearty g/dl	D.L g/dL	% RSD
760	0.5-8.78%	0.35	2.13%

:(3)

λ max nm	Pharmaceutical	Manufec.	Stated conc.	Found conc.
760	Capotine(Captopril)	Iraq	25 mg	24.6 mg
760	Capotine(Captopril)	Iraq	50 mg	49.1 mg

\ 0.33



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