

( )

**(NJC)**

( 2006 /11 / 15 )

( 2006 / 4/29 )

### Abstract

The dielectric properties of poly (Da.PcZn.DTer.Am) which was deposited on aluminum substrates using cast method. Aluminum electrode was deposited by evaporation method under vacuum environment less than  $10^4$  torr .

The sample put in oven augmented its temperature gradually up to  $100^{\circ}$  c before measuring . The dielectric parameters were measured as a function of temperature for the component of the equivalent parallel circuit contain electric capacitance and resistance .

This polymer can not be used in electronic application , therefore, it is used in dielectric application because the polymer has high polarization.

[1]

Thermosetting

.Thermoplastic

face to

[2] crosslinking

[3] face

Epoxy Resins

Linear ladder polymer

Two-

oligomer

polyethylene

[4] dimensional

[3] polystyrene

[5]

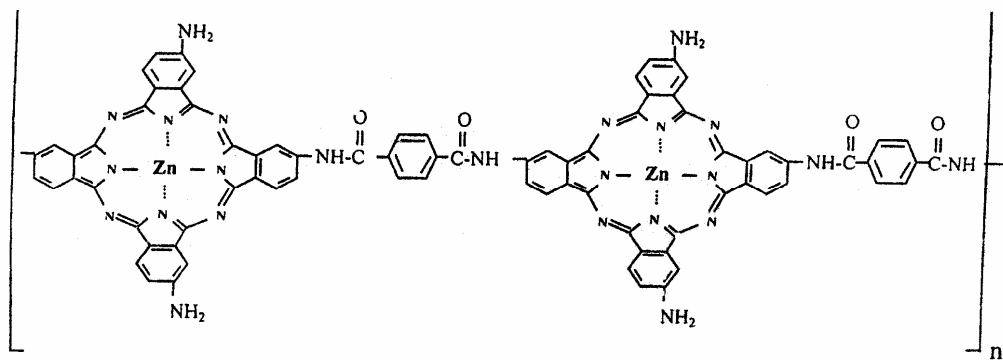
-1

Bridged

poly(Da.PcZn.DTer.Am) (

phthalocyanine polymer

(1)



. 1-

25cm<sup>3</sup>

-4)

DMSO

(

(4-NH<sub>2</sub>)<sub>4</sub> PcZn

DMSO

COOHC<sub>6</sub>H<sub>4</sub>COOH

(1mmole , 0.67 gm )

(1:1)

(

-4)

( 1mmole , 0.165)

48

120°C

30°C

(0.52 gm, 70%)

10°C

-2

100°C

(DMSO)

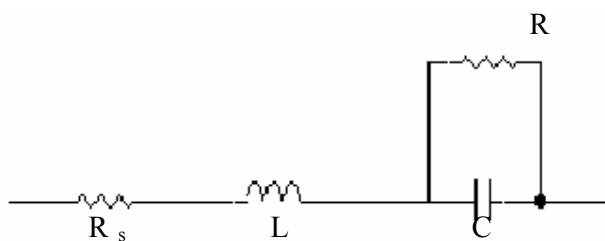
0.3gm

24

( $10^{-4}$  torr)

. Bochner funnel

.2-

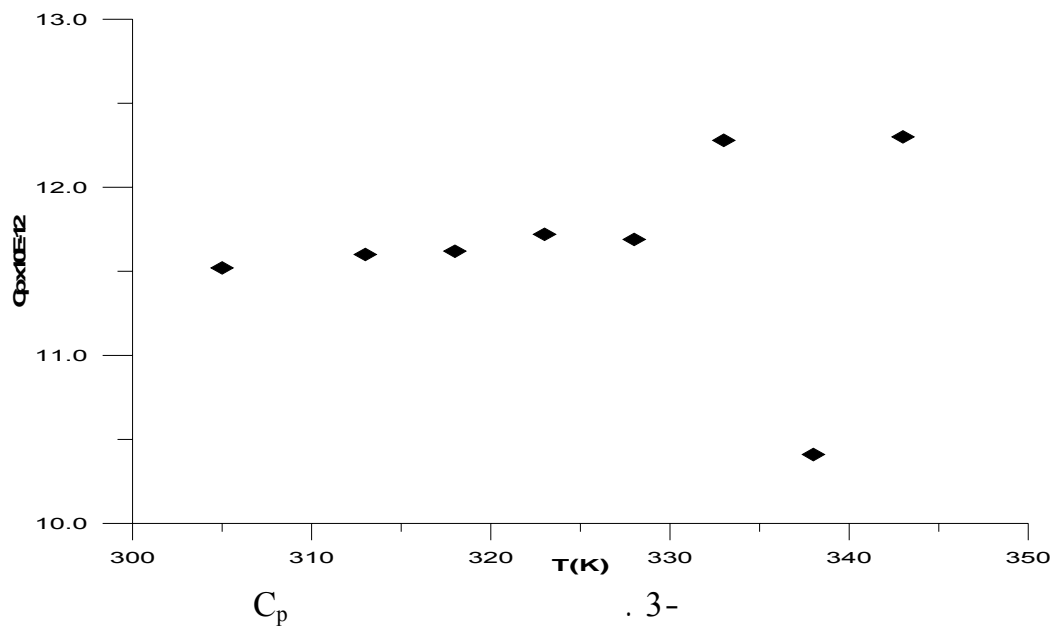


. 2-

<sup>p</sup>  
300- ) K ( 3 )

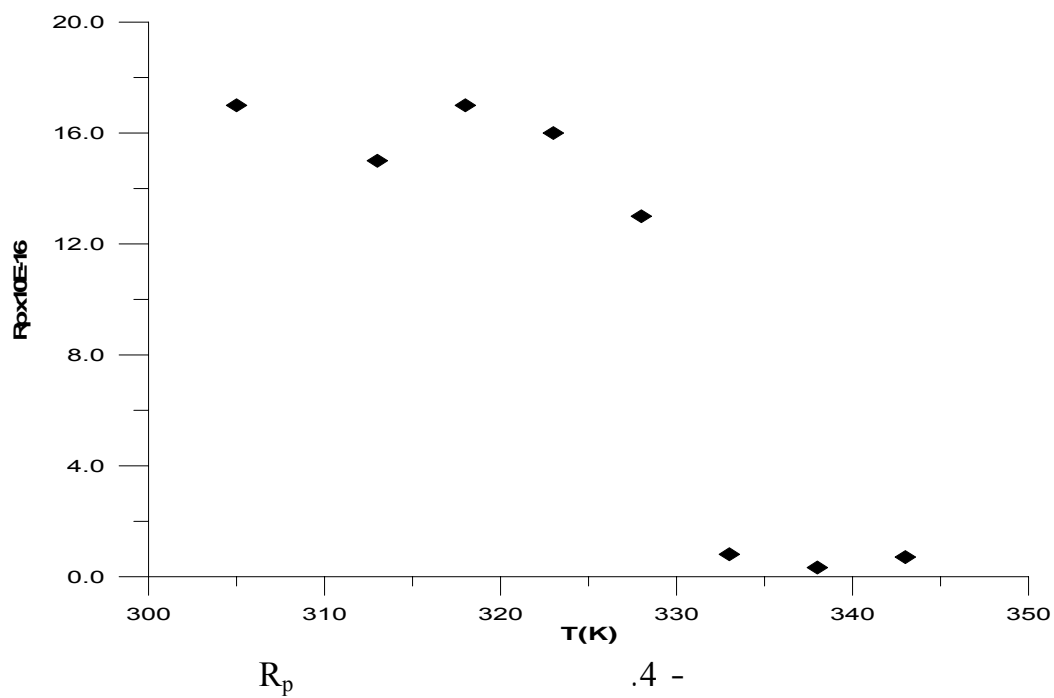
C  
( 343

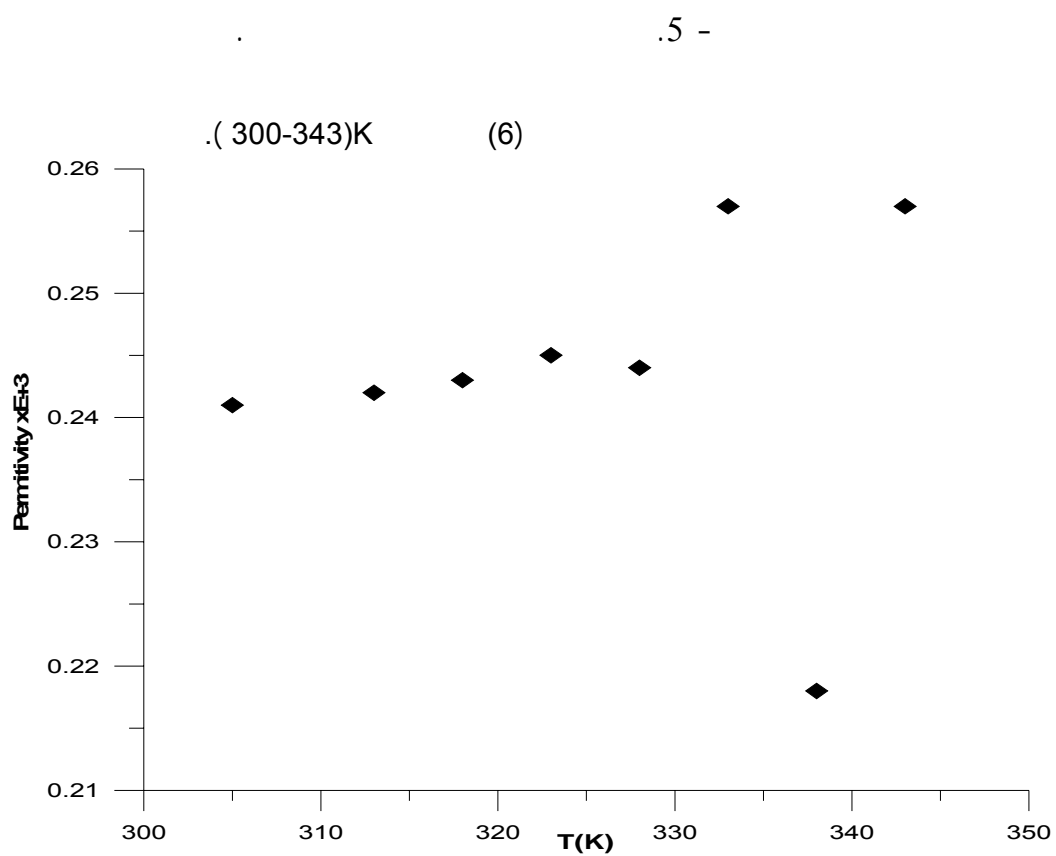
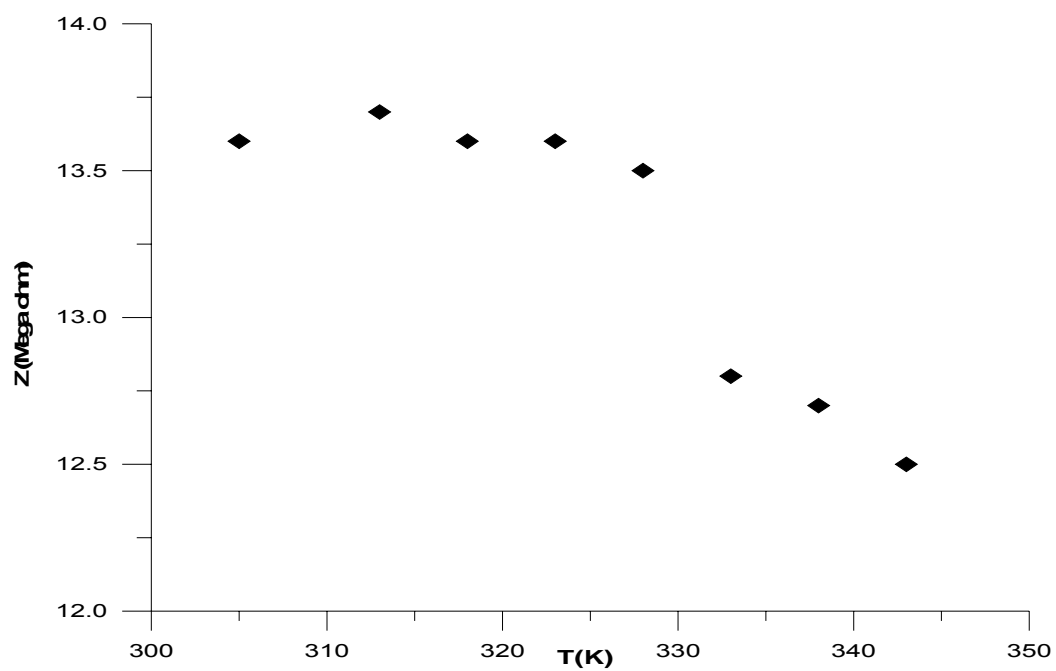
343K



$$\frac{1}{Z} = \frac{1}{R_p} + j\omega C_p \quad (4)$$

$$= \omega \quad C_p \quad (5- \quad ) \quad Z$$





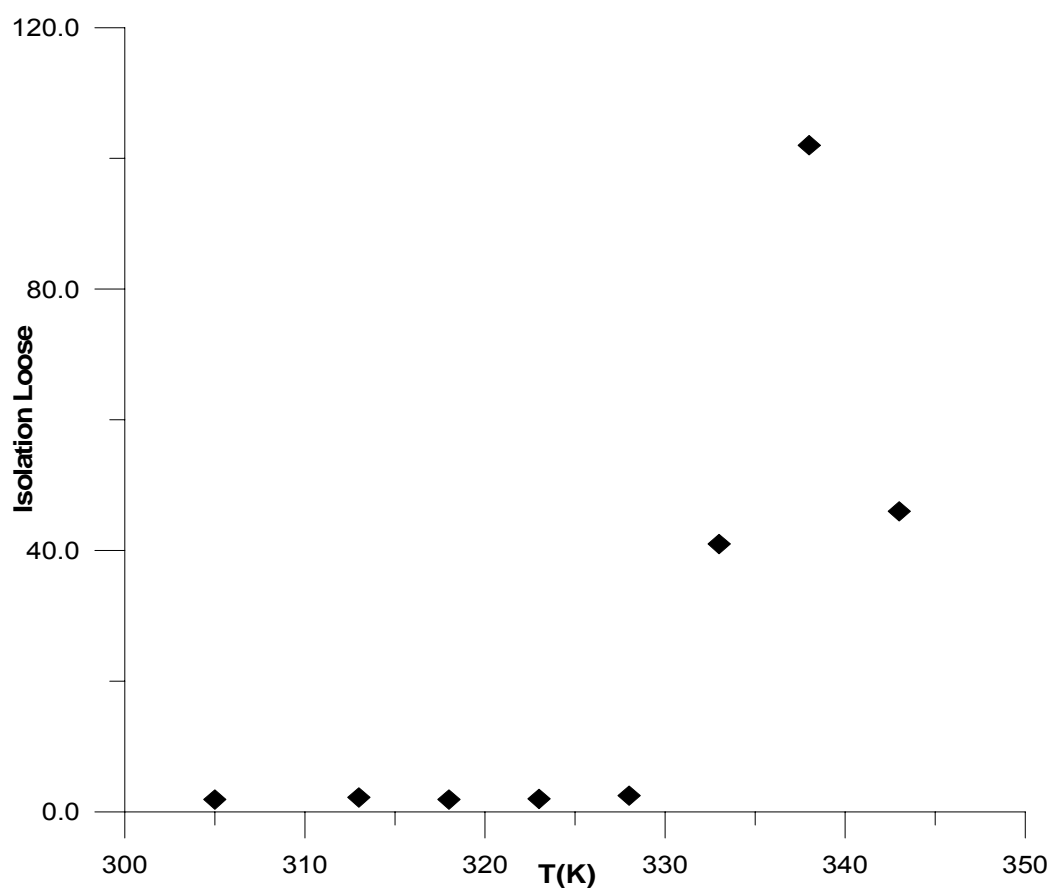
. [6]

(7)

 $R_p \quad \epsilon''$ 

:

$$\epsilon'' = \frac{1}{R_p \omega C_o}$$

 $C_o$ 

.7-

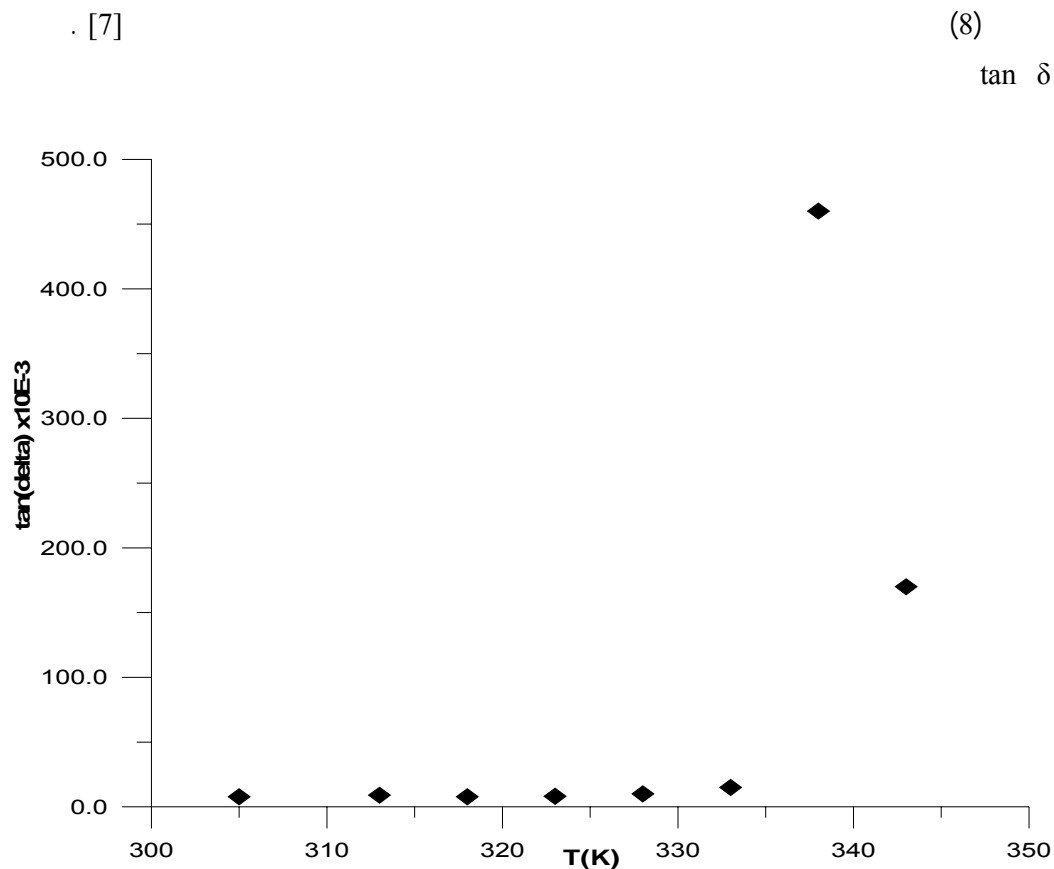
(β)

(α)

328K

. [7]

333K



$$\tan(\delta) = \frac{\epsilon''}{\epsilon'}$$

8-

6-J.O.Simpson and  
A.K.st.Clair,NASA Langley  
Research center,Hampton VA  
23681-0001.

7-Ali, Q.Abdullh, M.sc thesis,  
University of Basrah, 1998, Iraq.

1- A .F Abed AL-kader, M.sc  
thesis, University of  
Basrah,2001, Iraq.

-2

"

(1984 )

3-M.Hanach, S. Kamarzin and  
L.R. Subramaniam, *Synth, Met.*,  
2000, **110**,93.

4-R.Jung and M. Hanck,  
*Synthesis*, 2001, **9**, 1387.

5-R.H.Alasidi, M.sc thesis,  
University of Basrah , Iraq, 2002.