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A

Anexos

A.1

Análise Termogravimétrica

A.1.1

Ligantes

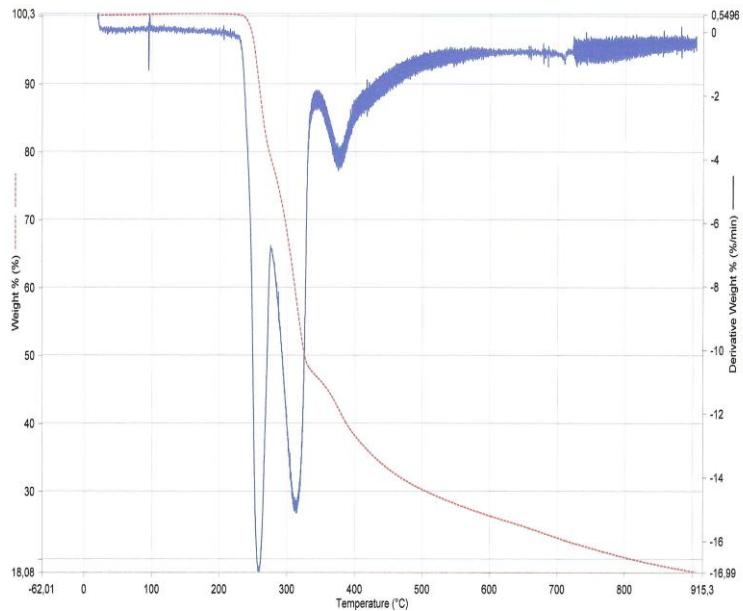


Figura A.1- TGA do ligante Gli-gli.

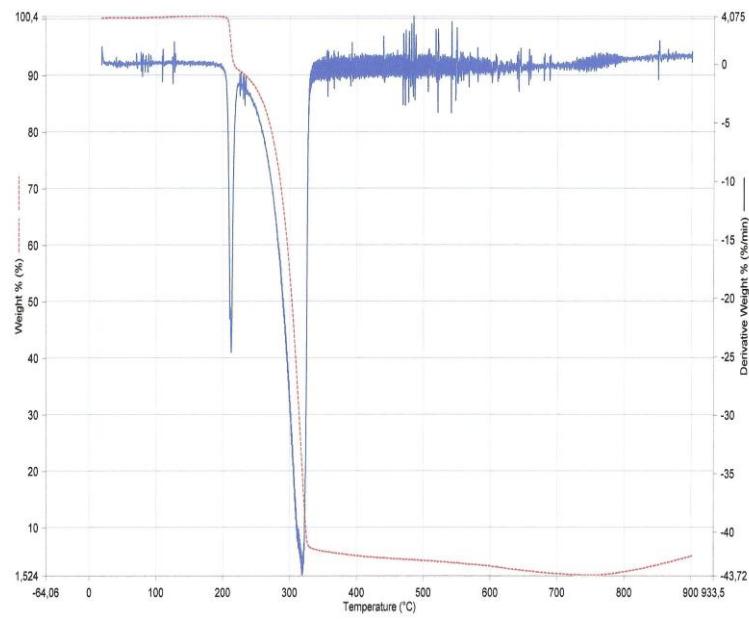


Figura A.2- TGA do ligante Met-met.

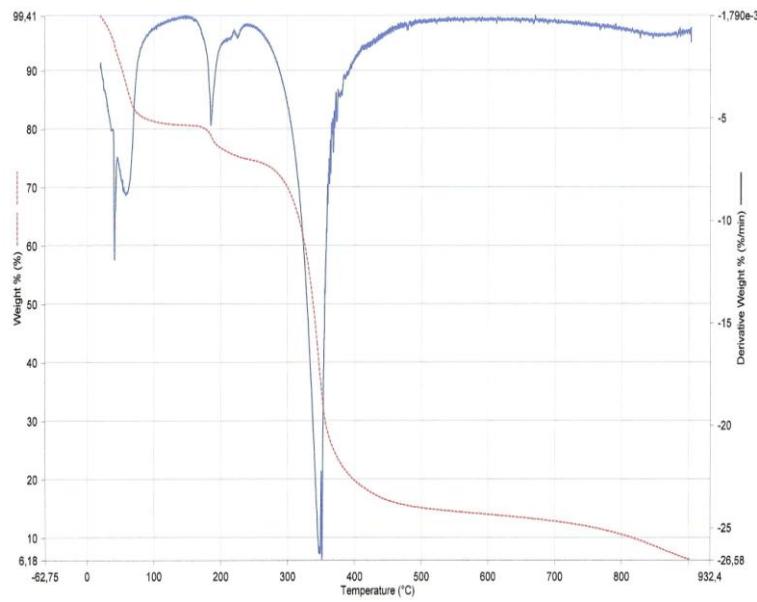


Figura A.3- TGA do ligante Met-gli.

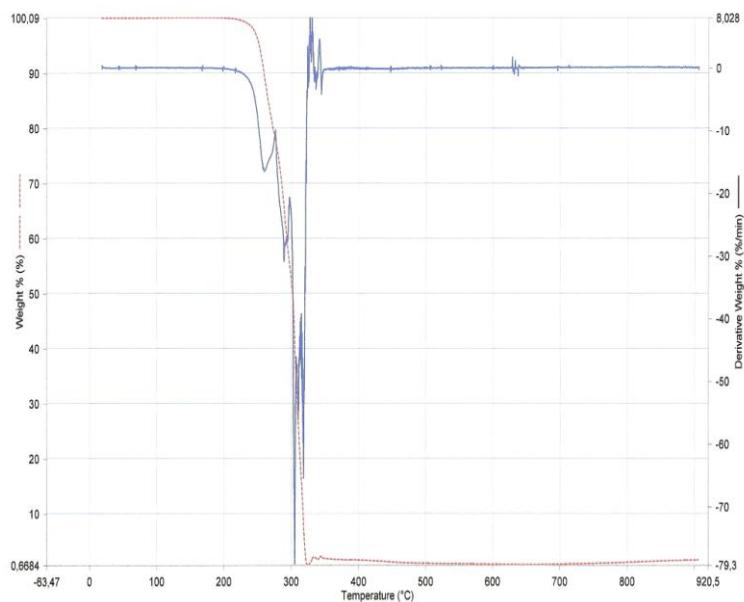


Figura A.4- TGA do ligante Gli-val.

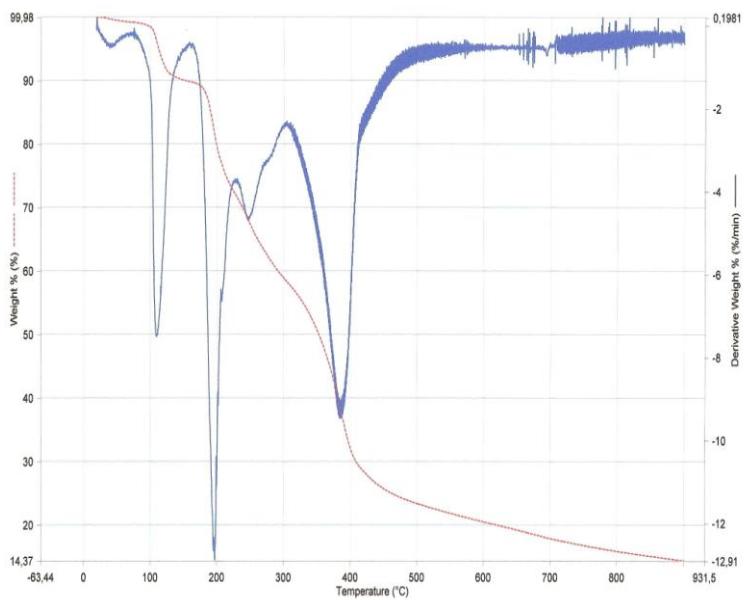


Figura A.5- TGA do ligante Cis-gli.

A.1.2

Complexos de cobre

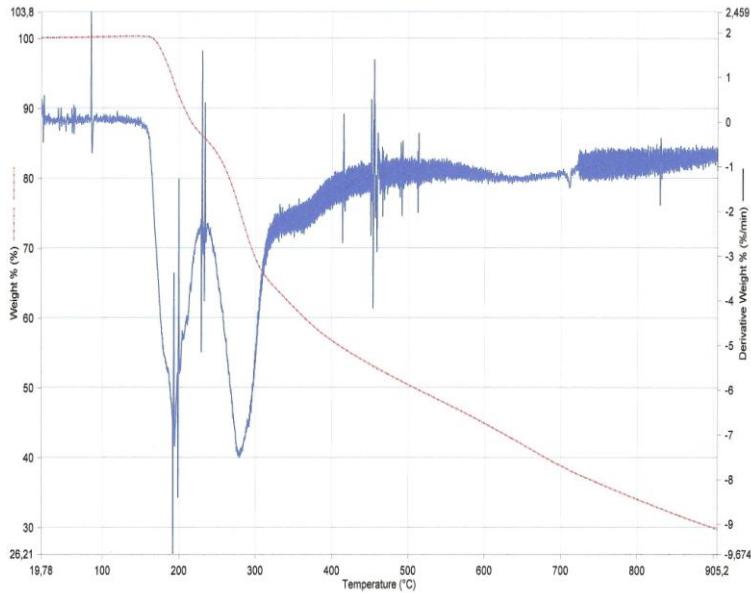


Figura A.6- TGA do Complexo Cu(Gli-gli).

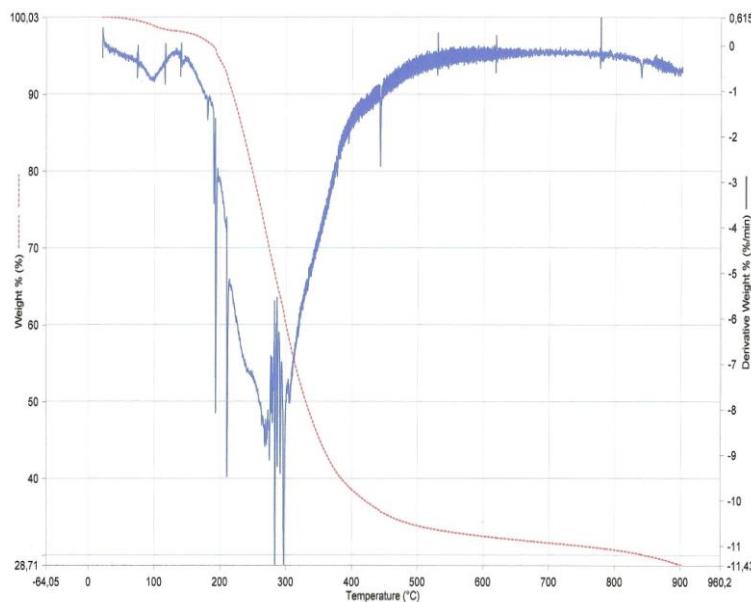


Figura A.7- TGA do Complexo Cu(Met-met).

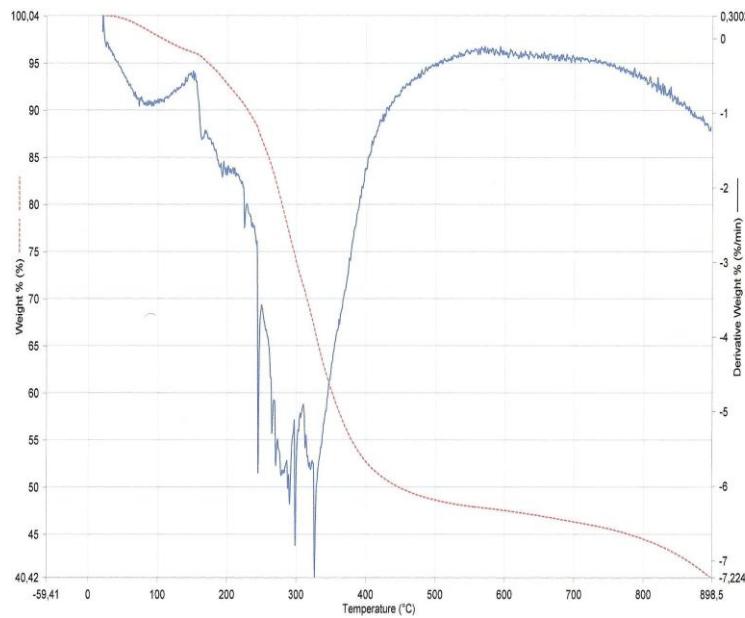
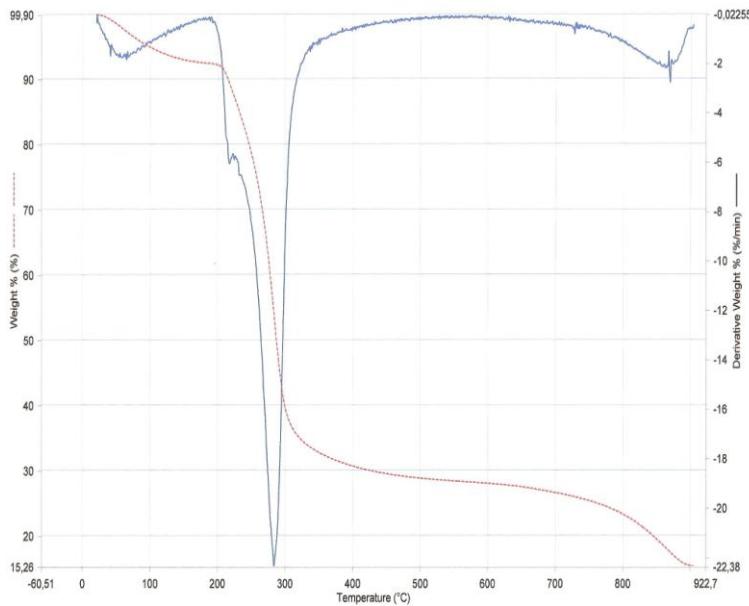


Figura A.8- TGA do Complexo Cu(Met-gli).

Figura A.9- TGA do Complexo Cu(Gli-val)₂.

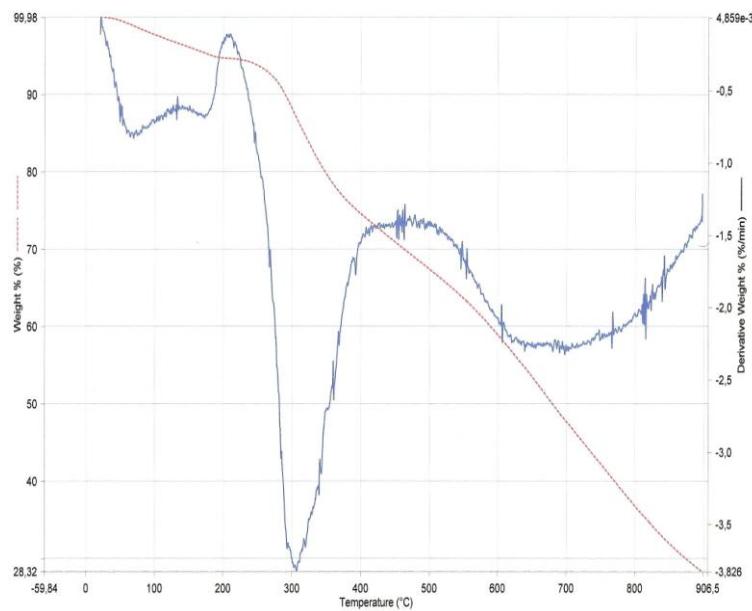
A.1.3**Complexos de zinco**

Figura A.10- TGA do complexo Zn(Gli-gli).

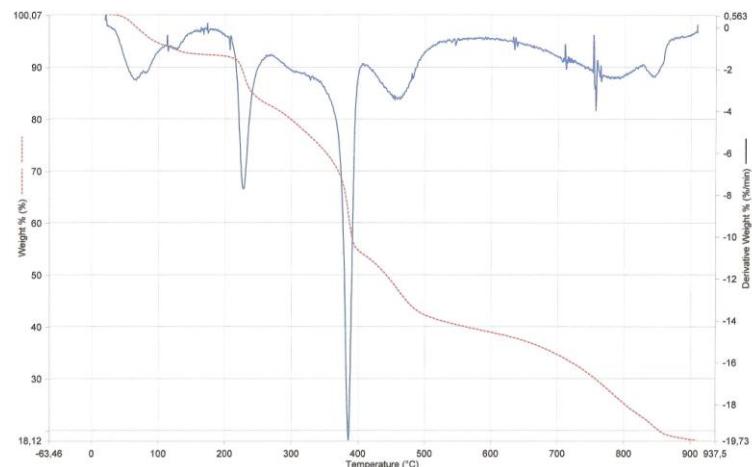


Figura A.11- TGA do complexo Zn(Gli-val).

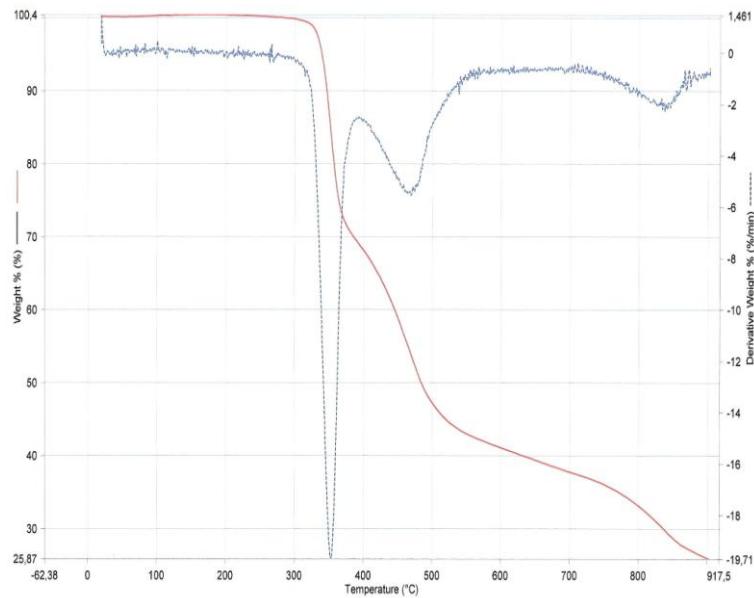


Figura A.12- TGA do complexo $\text{Zn}(\text{Gli-val})_2$.

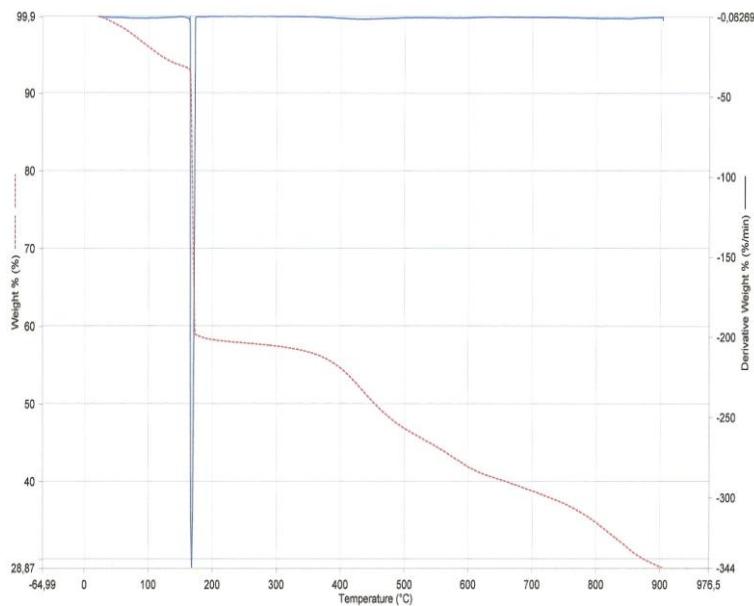


Figura A.13- TGA do complexo $\text{Zn}(\text{Cis-gli})$.

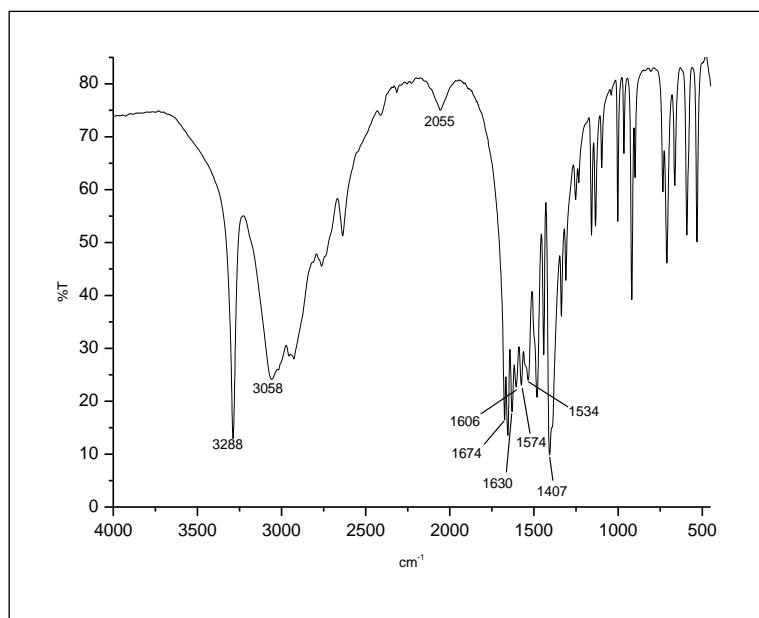
A.2**Infravermelho****A.2.1****Ligantes**

Figura A.14- IV do ligante Gli-gli na região (4000-450) cm^{-1} em pastilha de KBr.

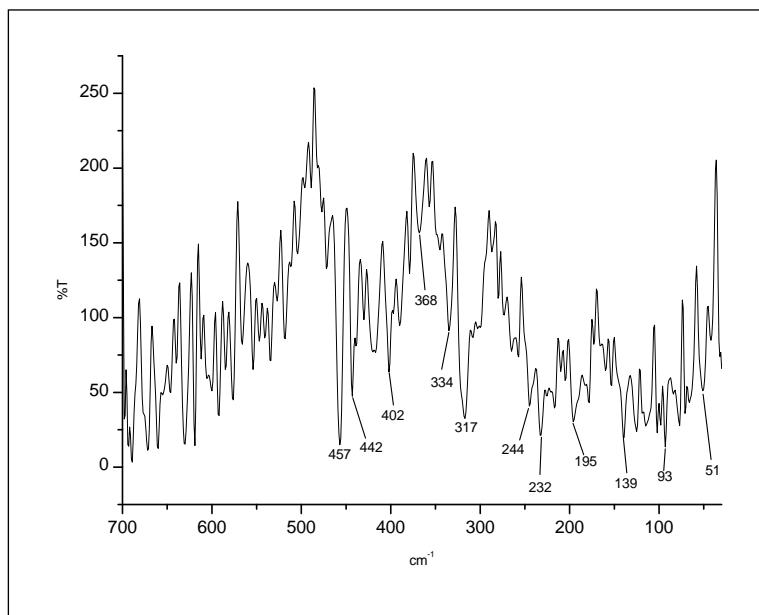


Figura A.15- IV do ligante Gli-gli na região (700-30) cm^{-1} em pastilha de polietileno.

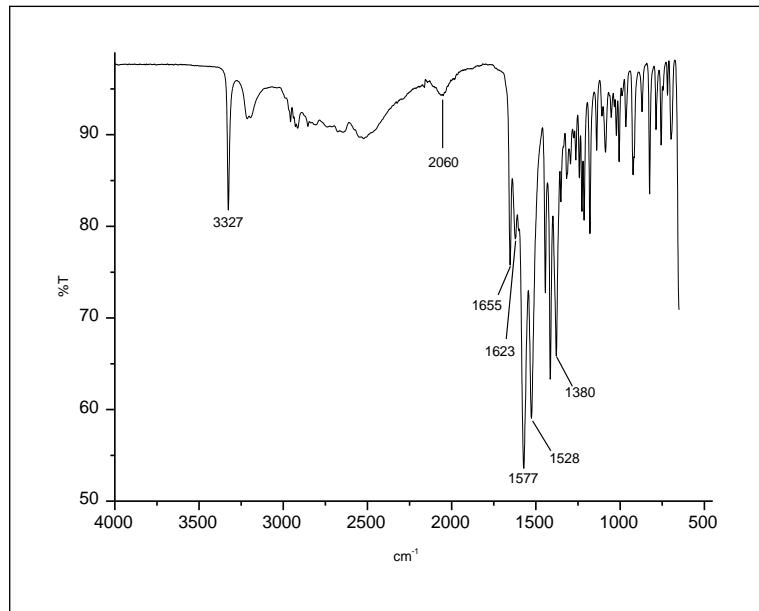


Figura A.16- IV do ligante Met-met na região (4000-450) cm⁻¹ em pastilha de KBr.

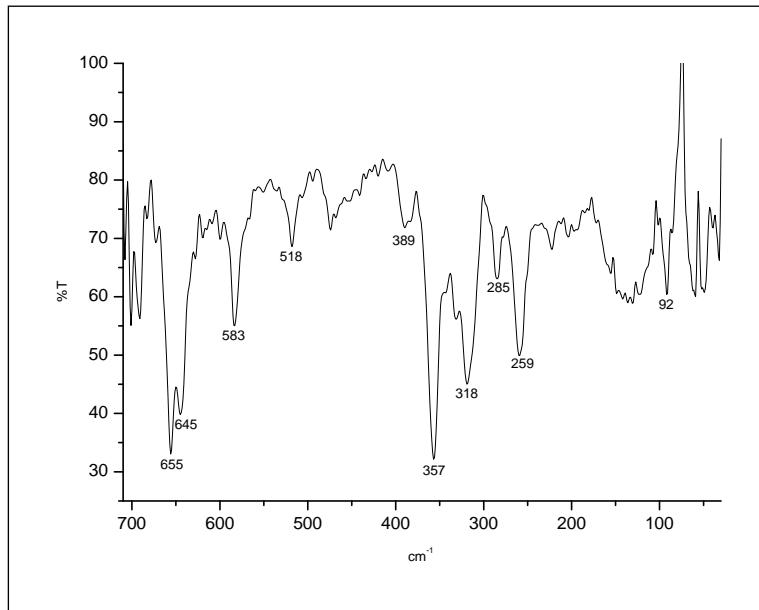


Figura A.17- IV do ligante Met-met na região (700-30) cm⁻¹ em pastilha de polietileno.

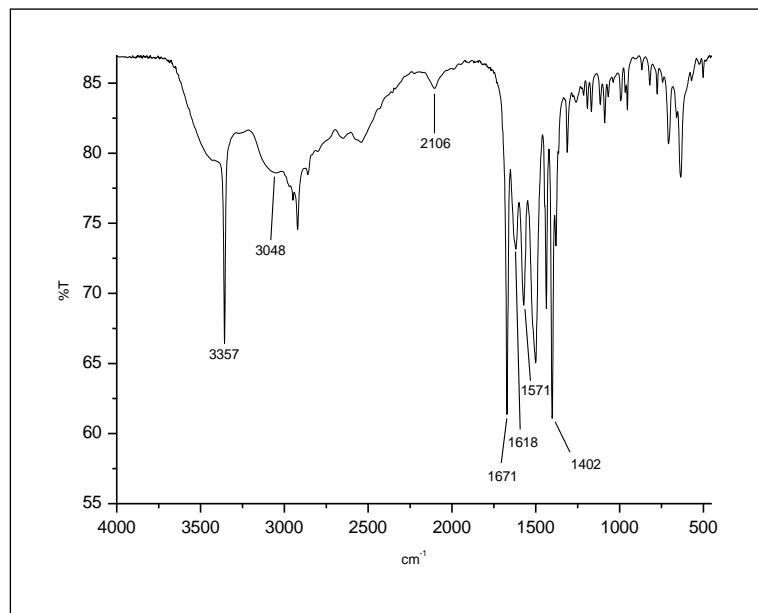


Figura A.18- IV do ligante Met-gli na região (4000-450) cm⁻¹ em pastilha de KBr.

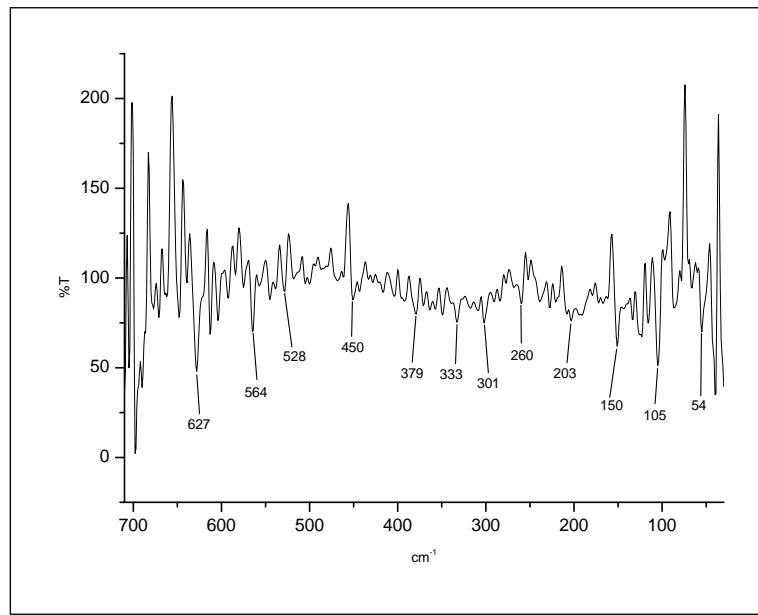


Figura A.19- IV do ligante Met-gli na região (700-30) cm⁻¹ em pastilha de polietileno.

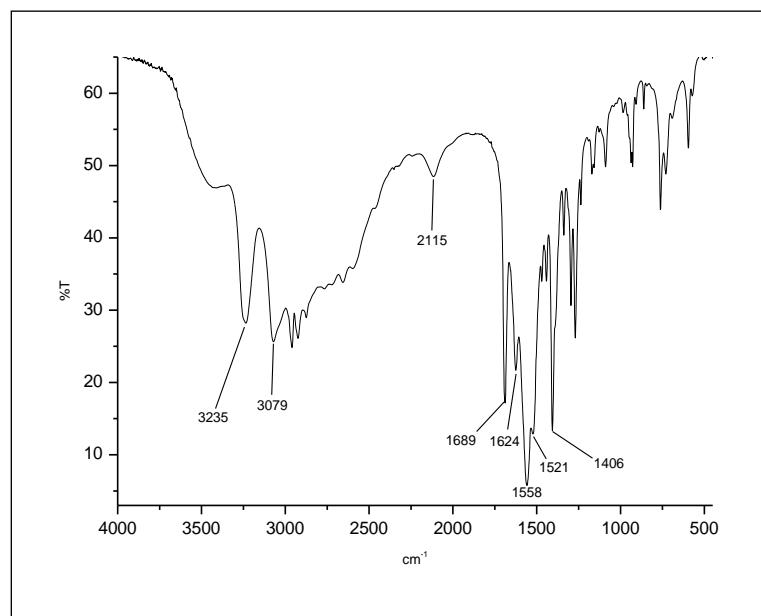


Figura A.20- IV do ligante Gli-val na região (4000-450) cm^{-1} em pastilha de KBr.

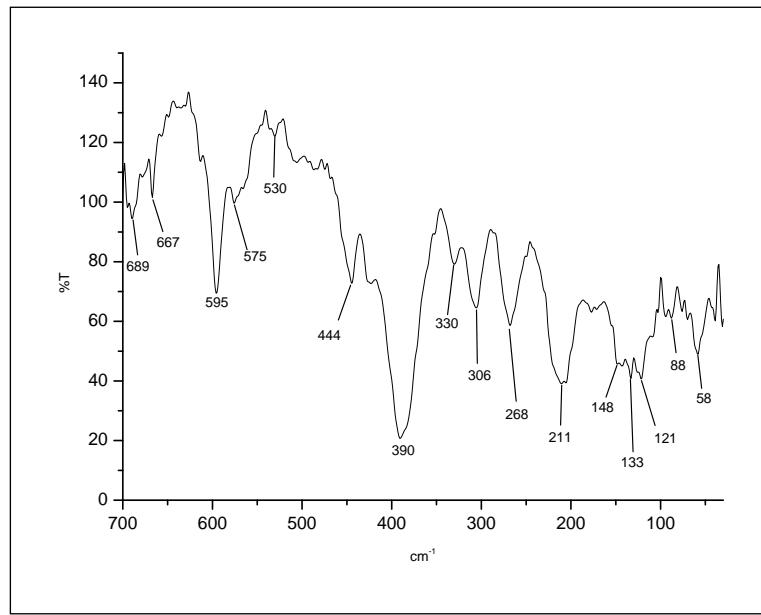


Figura A.21- IV do ligante Gli-val na região (700-30) cm^{-1} em pastilha de polietileno.

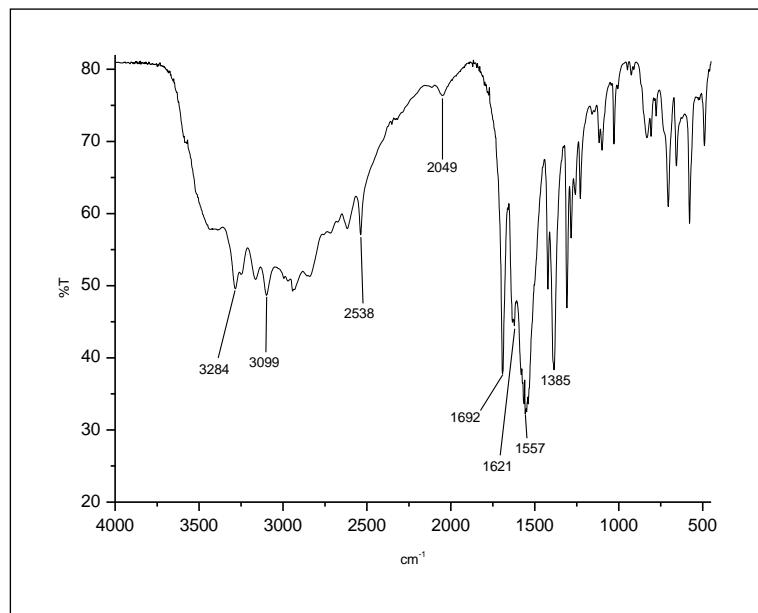


Figura A.22- IV do ligante Cis-gli na região (4000-450) cm^{-1} em pastilha de KBr.

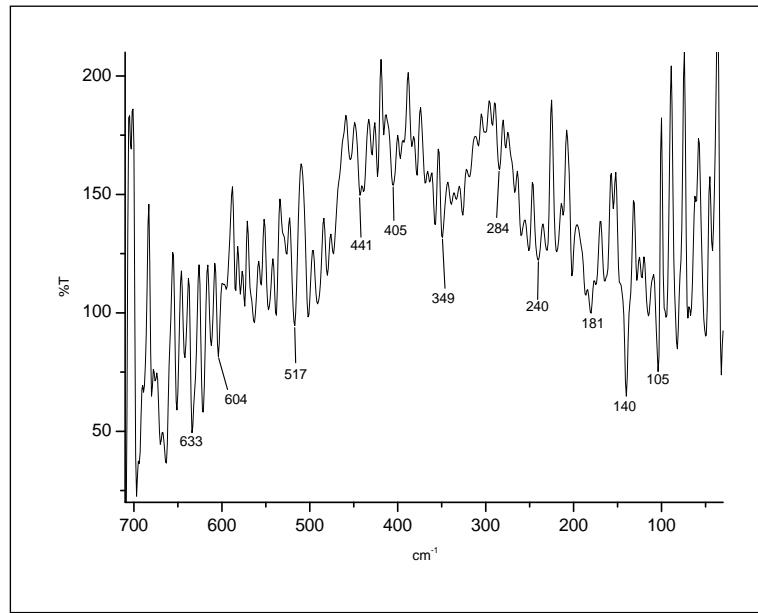


Figura A.23- IV do ligante Cis-gli na região (700-30) cm^{-1} em pastilha de polietileno.

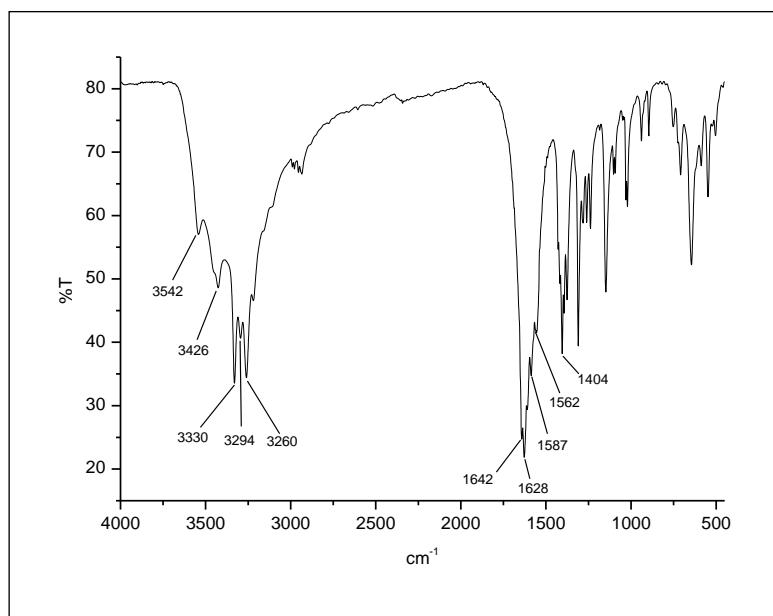
A.2.2**Complexos de Cobre**

Figura A.24- IV do complexo Cu(Gli-gli) na região (4000-450) cm^{-1} em pastilha de KBr.

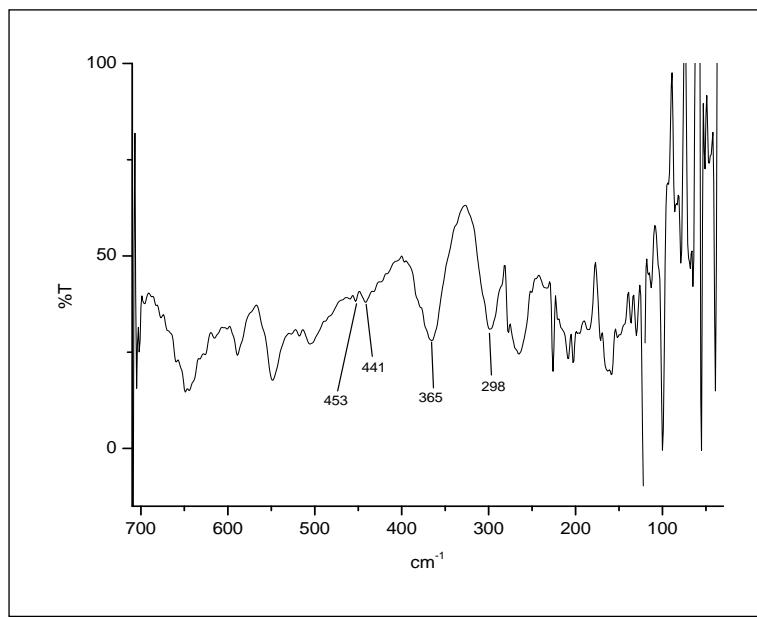


Figura A.25- IV do complexo Cu(Gli-gli) na região (700-30) cm^{-1} em pastilha de polietileno.

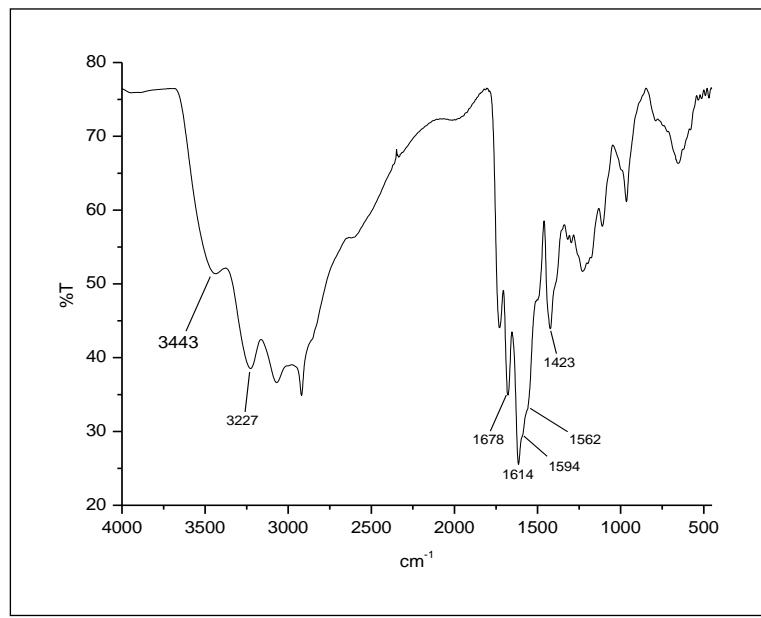


Figura A.26- IV do complexo Cu(Met-met) na região (4000-450) cm^{-1} em pastilha de KBr.

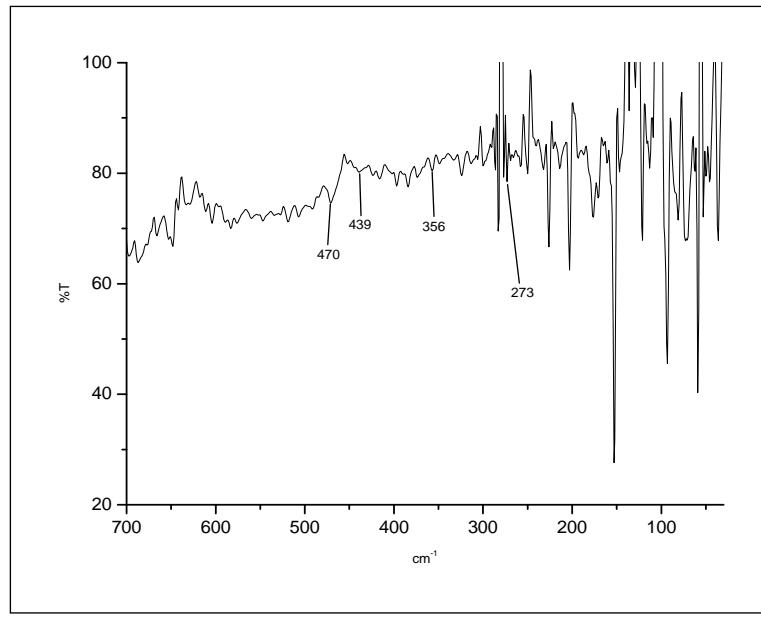


Figura A.27- IV do complexo Cu(Met-met) na região (700-30) cm^{-1} em pastilha de polietileno.

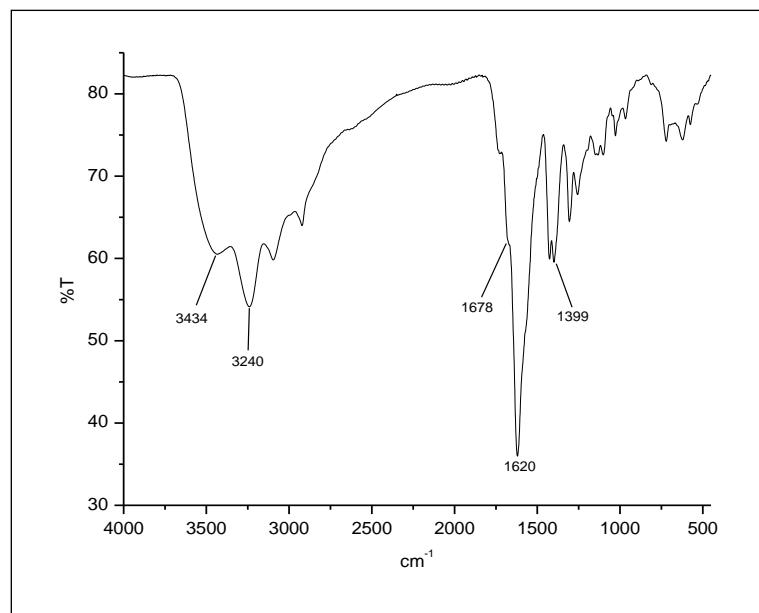


Figura A.28- IV do complexo Cu(Met-gli) na região (4000-450) cm^{-1} em pastilha de KBr.

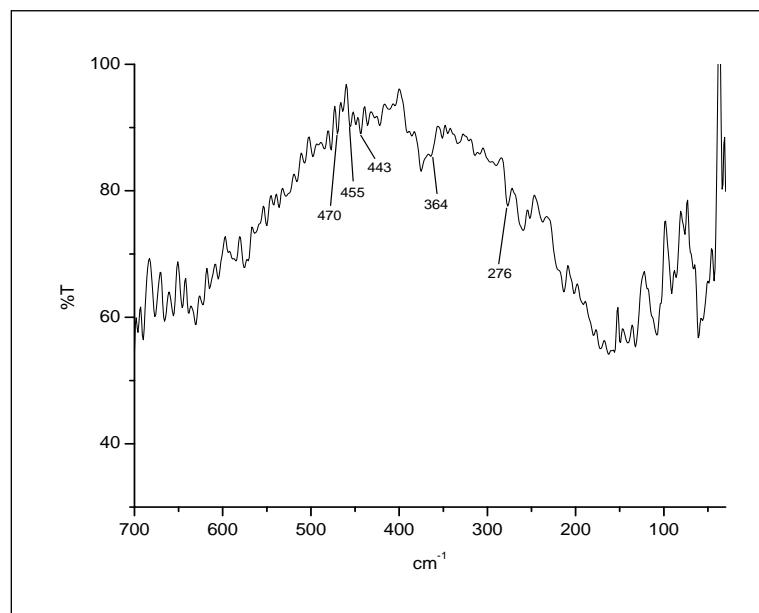


Figura A.29- IV do complexo Cu(Met-gli) na região (700-30) cm^{-1} em pastilha de polietileno.

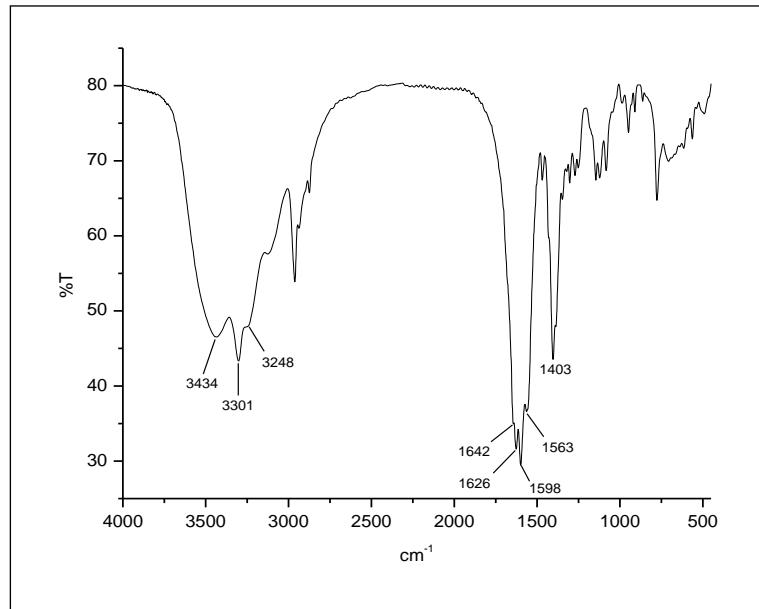


Figura A.30- IV do complexo $\text{Cu}(\text{Gli-val})_2$ na região $(4000\text{-}450)$ cm^{-1} em pastilha de KBr.

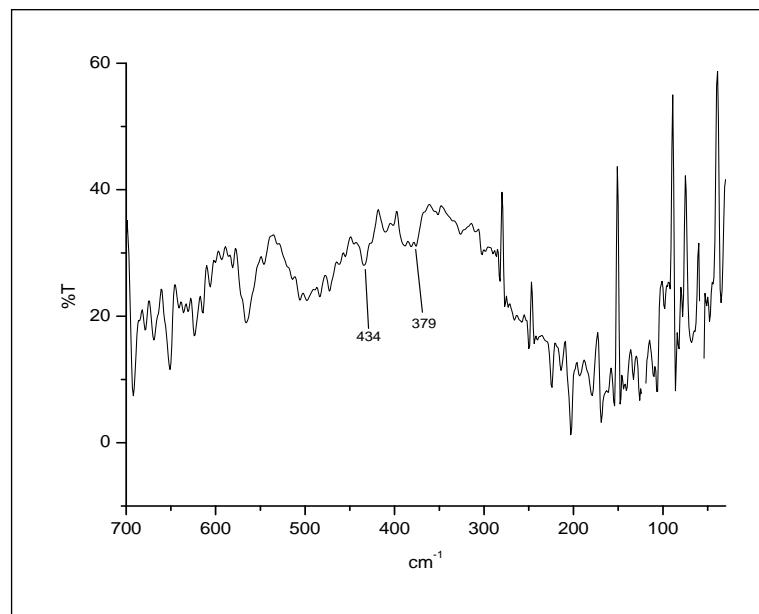


Figura A.31- IV do complexo $\text{Cu}(\text{Gli-val})_2$ na região $(700\text{-}30)$ cm^{-1} em pastilha de polietileno.

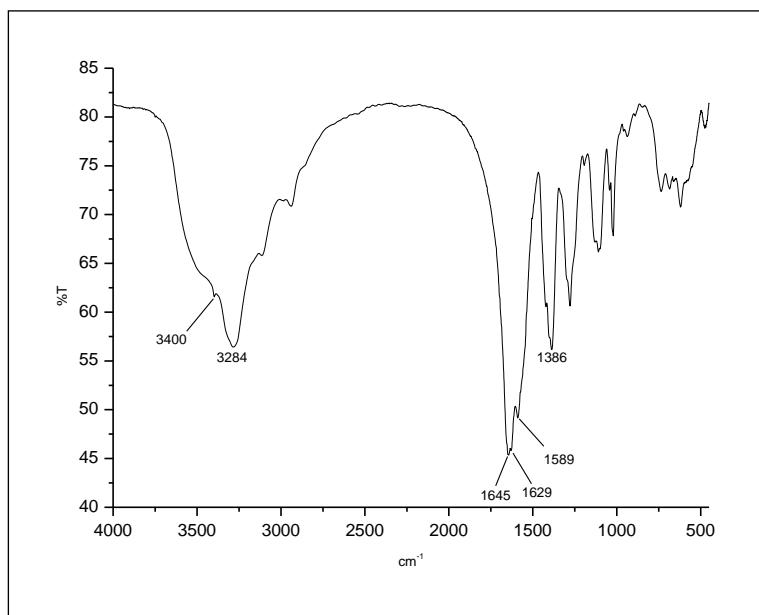
A.2.3**Complexos de Zinco**

Figura A.32- IV do complexo Zn(Gli-gli) na região (4000-450) cm^{-1} em pastilha de KBr.

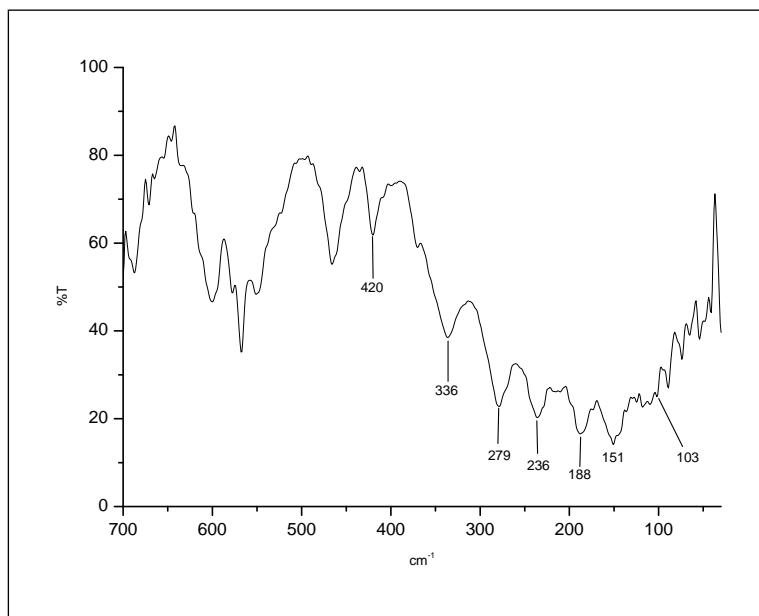


Figura A.33- IV do complexo Zn(Gli-gli) na região (700-30) cm^{-1} em pastilha de polietileno.

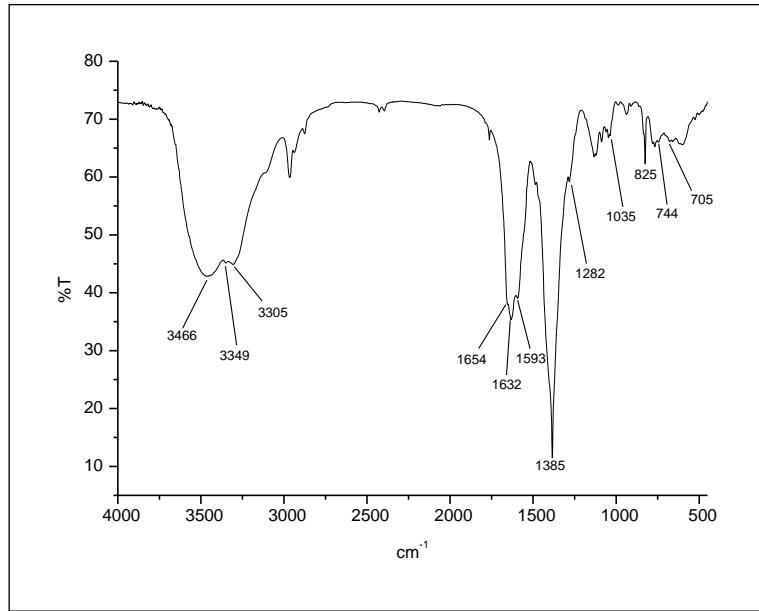


Figura A.34- IV do complexo Zn(Gli-val) na região (4000-450) cm^{-1} em pastilha de KBr.

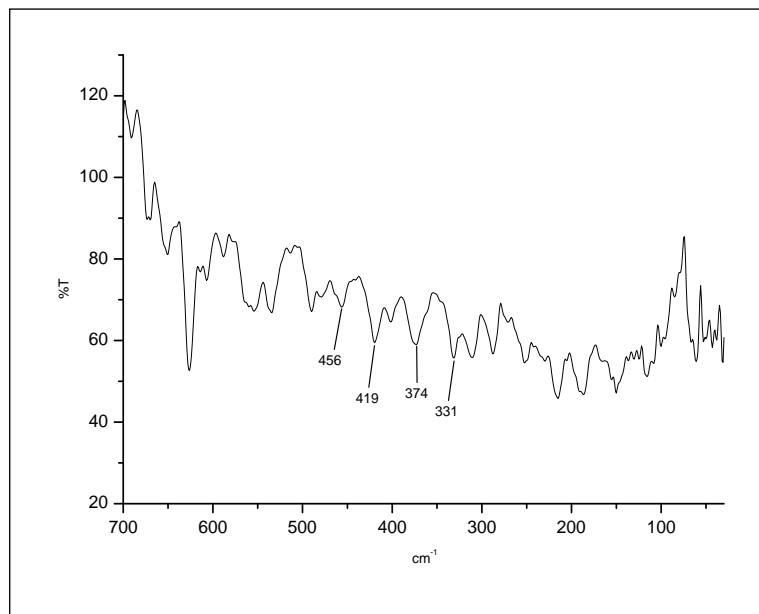


Figura A.35- IV do complexo Zn(Gli-val) na região (700-30) cm^{-1} em pastilha de polietileno.

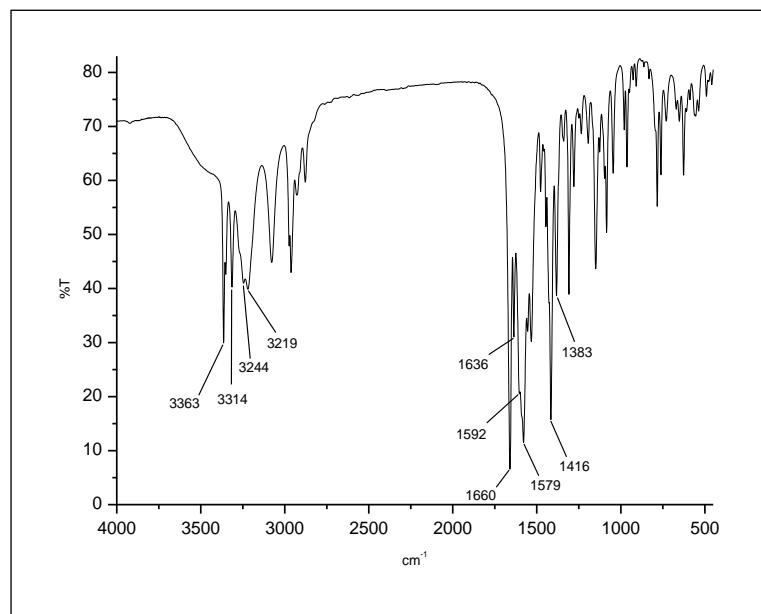


Figura A.36- IV do complexo $\text{Zn}(\text{Gli-val})_2$ na região (4000-450) cm^{-1} em pastilha de KBr.

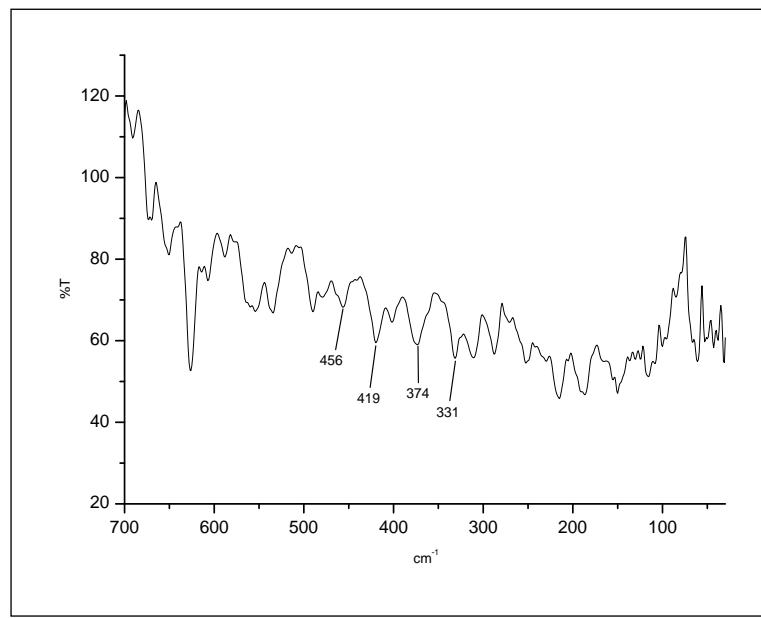


Figura A.37- IV do complexo $\text{Zn}(\text{Gli-val})_2$ na região (700-30) cm^{-1} em pastilha de polietileno.

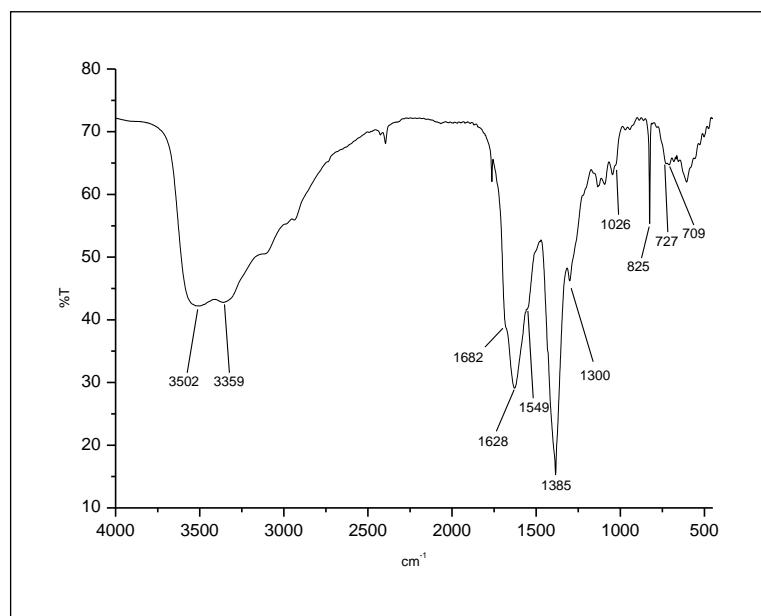


Figura A.38- IV do complexo Zn(Cis-gli) na região (4000-450) cm^{-1} em pastilha de KBr.

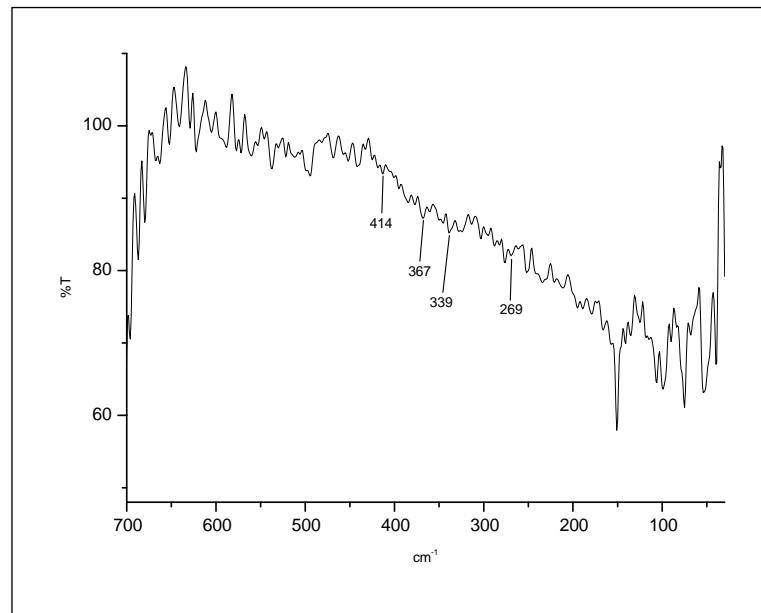


Figura A.39- IV do complexo Zn(Cis-gli) na região (700-30) cm^{-1} em pastilha de polietileno.

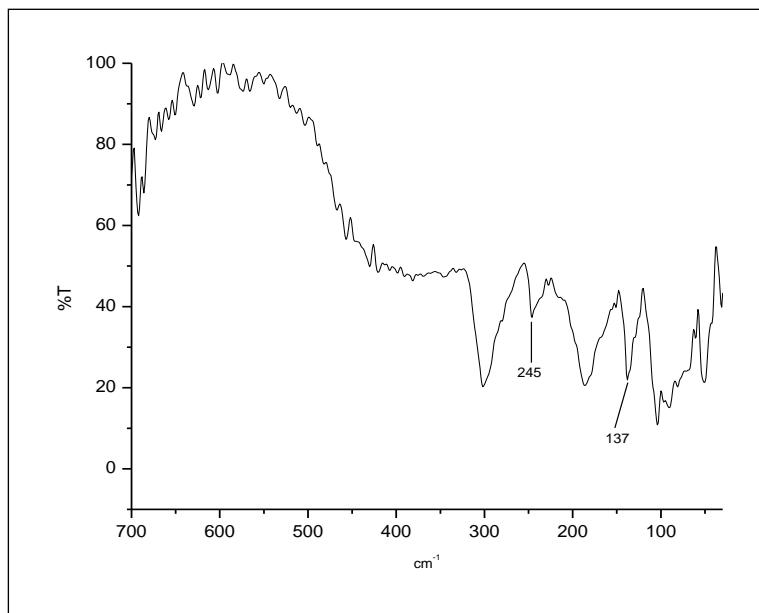
A.2.4**Sais de Metais**

Figura A.40- IV do $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ na região (700-30) cm^{-1} em pastilha de polietileno.

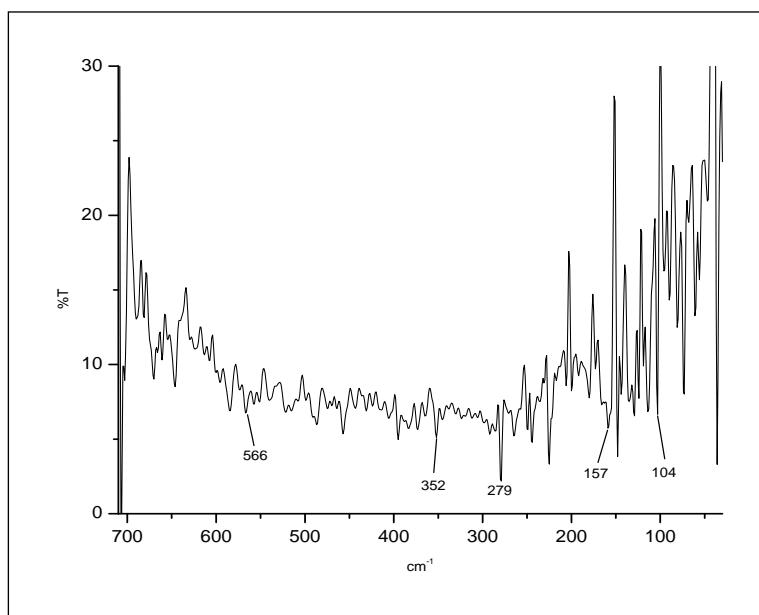


Figura A.41- IV do ZnCl_2 na região (700-30) cm^{-1} em pastilha de polietileno.

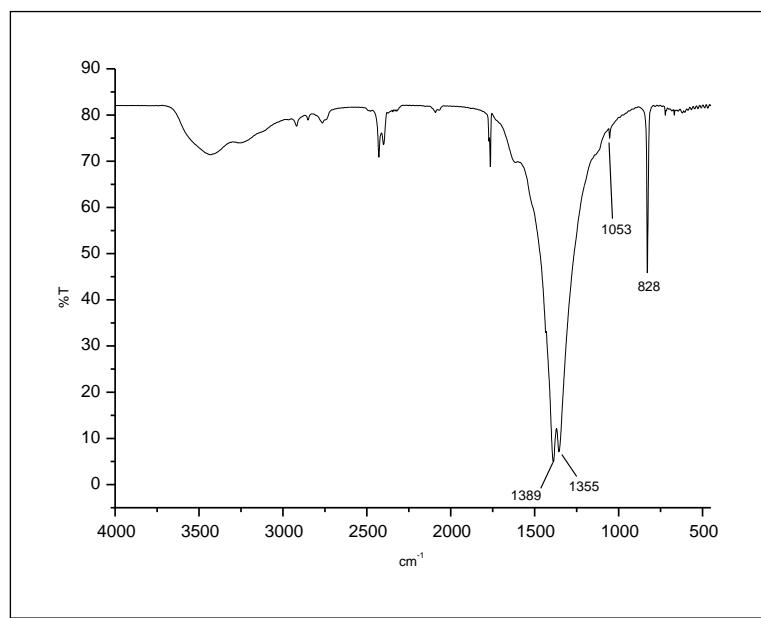


Figura A.42- IV do $\text{Zn}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ na região (4000-450) cm^{-1} em pastilha de KBr.

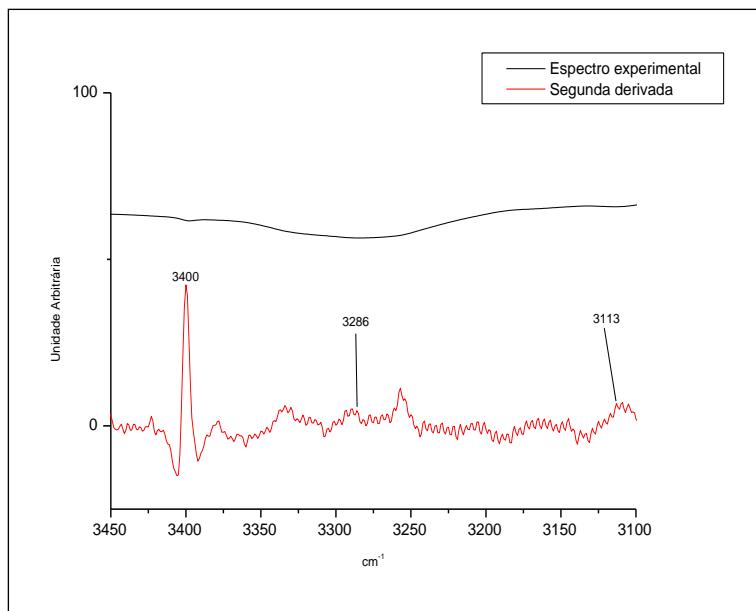
A.2.5**Segunda derivada dos espectros dos complexos de zinco****Zn(Gli-gli)**

Figura A.43- Segunda derivada do IV do Zn(Gli-gli) na região (3450-3100) cm⁻¹.

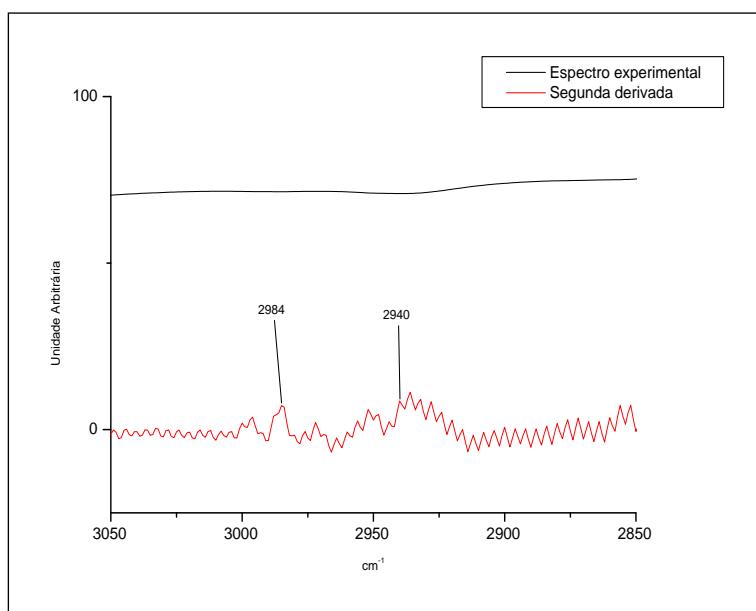


Figura A.44- Segunda derivada do IV do Zn(Gli-gli) na região (3050-2850) cm⁻¹.

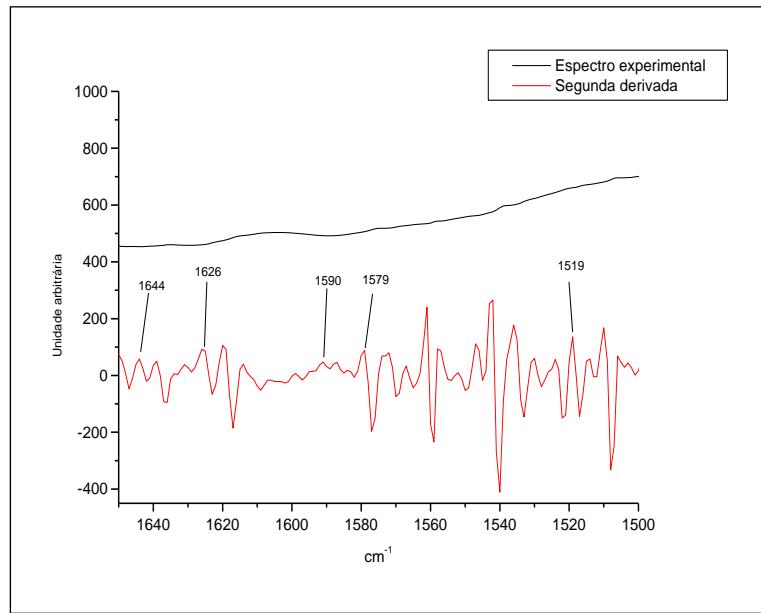


Figura A.45- Segunda derivada do IV do Zn(Gli-gli) na região (1650-1500) cm⁻¹.

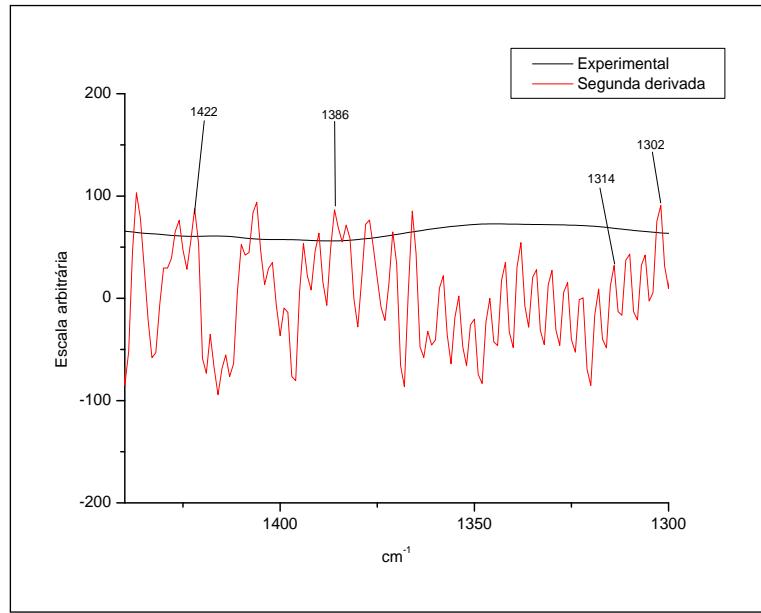


Figura A.46- Segunda derivada do IV do Zn(Gli-gli) na região (1440-1300) cm⁻¹

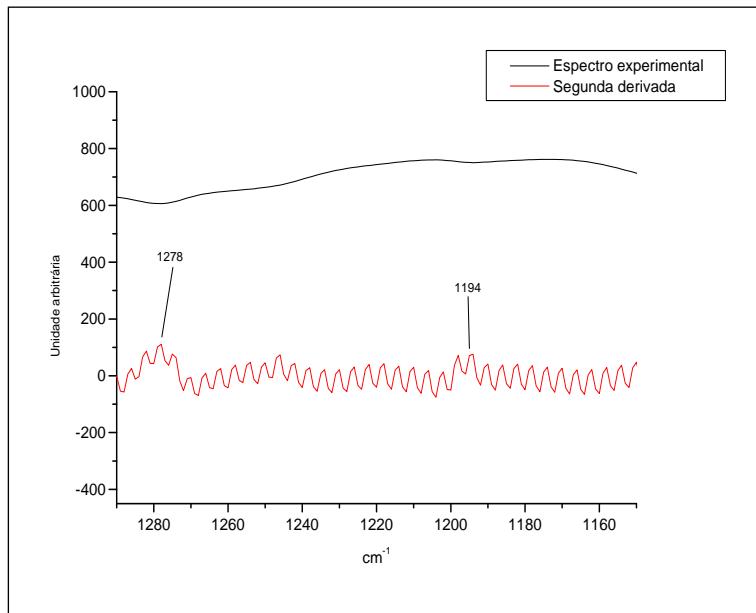


Figura A.47- Segunda derivada do IV do Zn(Gli-gli) na região (1290-1150) cm⁻¹.

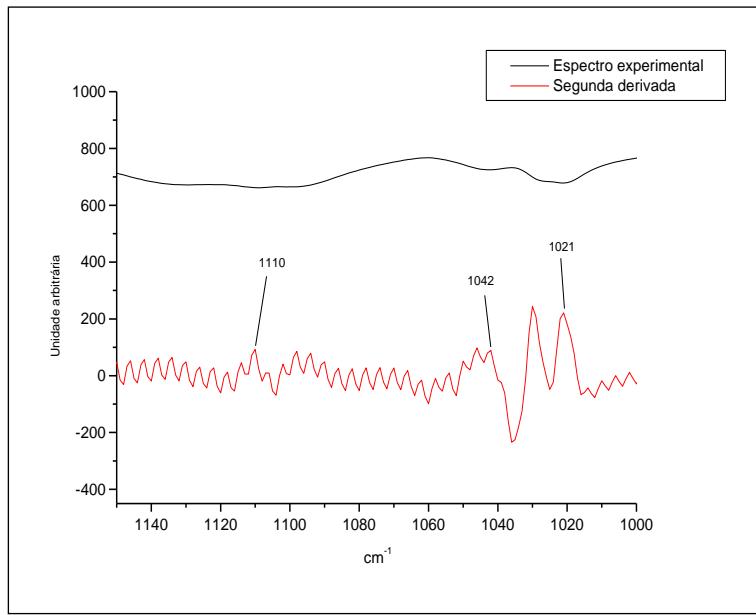


Figura A.48: Segunda derivada do IV do Zn(Gli-gli) na região (1150-1000) cm⁻¹.

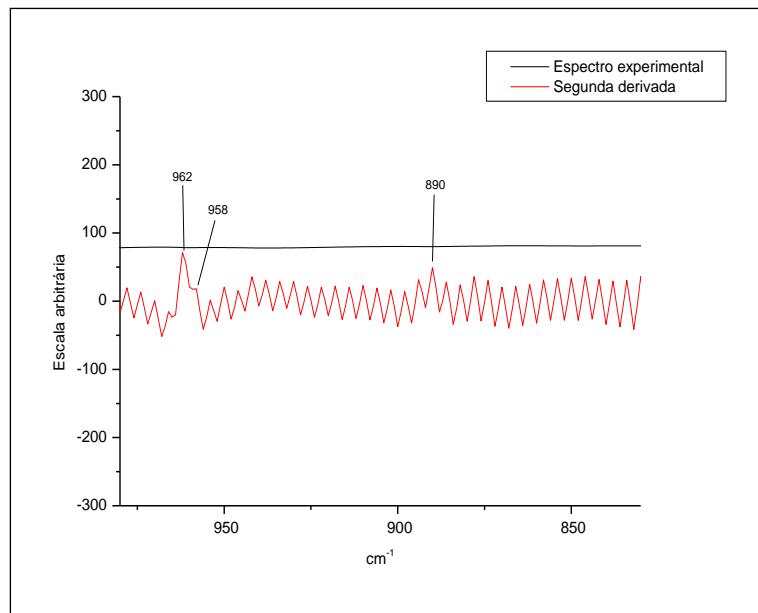


Figura A.49- Segunda derivada do IV do Zn(Gli-gli) na região (980-830) cm^{-1} .

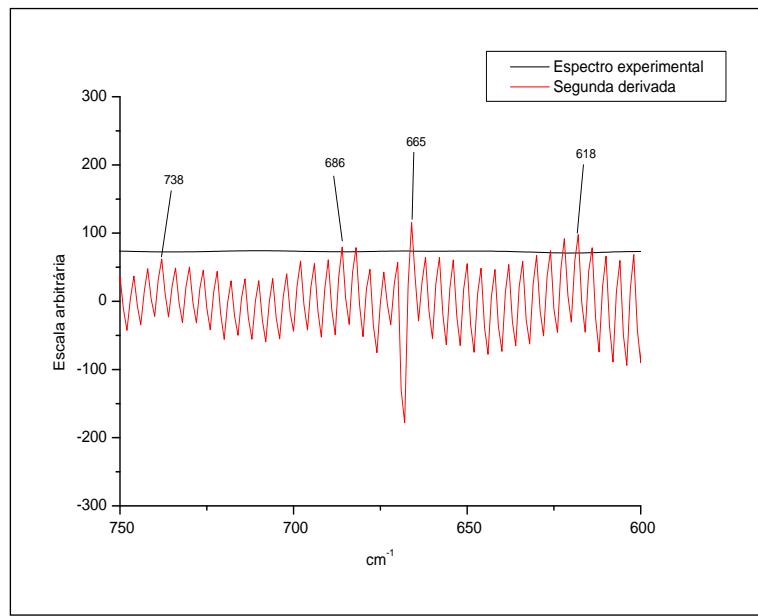


Figura A.50- Segunda derivada do IV do Zn(Gli-gli) na região (750-600) cm^{-1} .

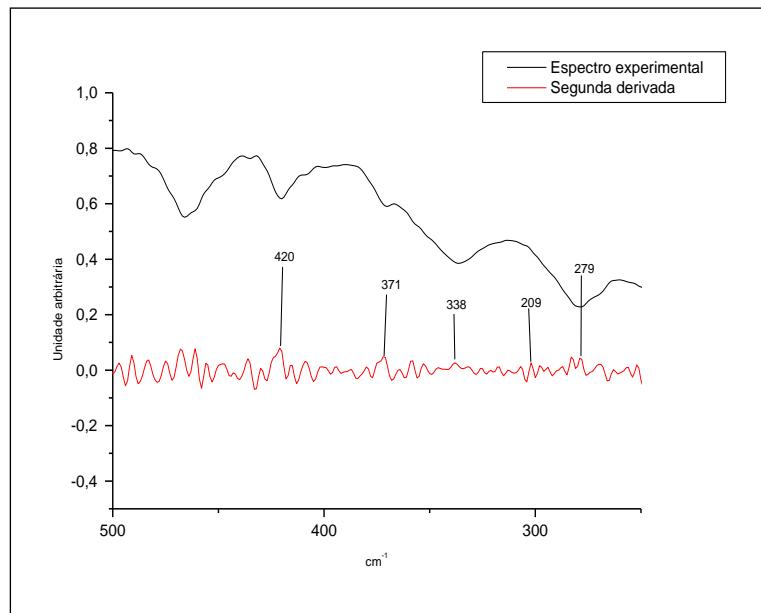


Figura A.51- Segunda derivada do IV do Zn(Gli-gli) na região (450-250)cm⁻¹.

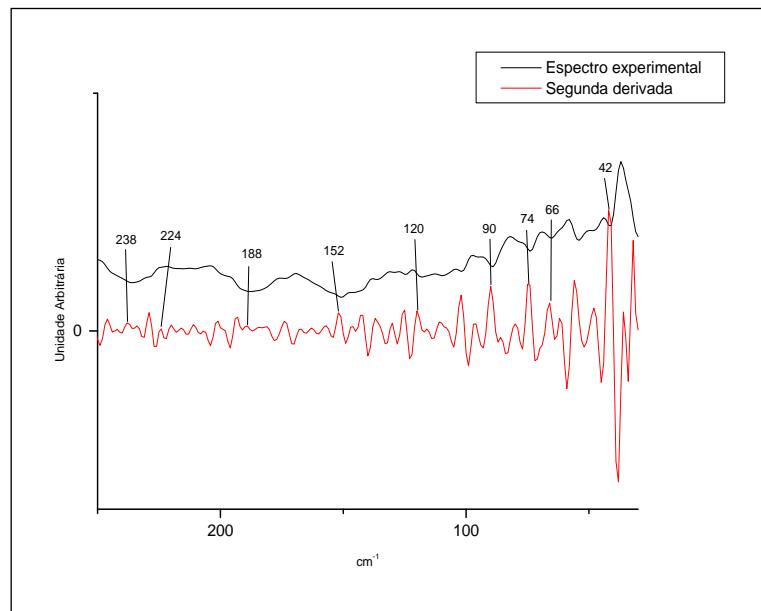


Figura A.52- Segunda derivada do IV do Zn(Gli-gli) na região (250-30)cm⁻¹.

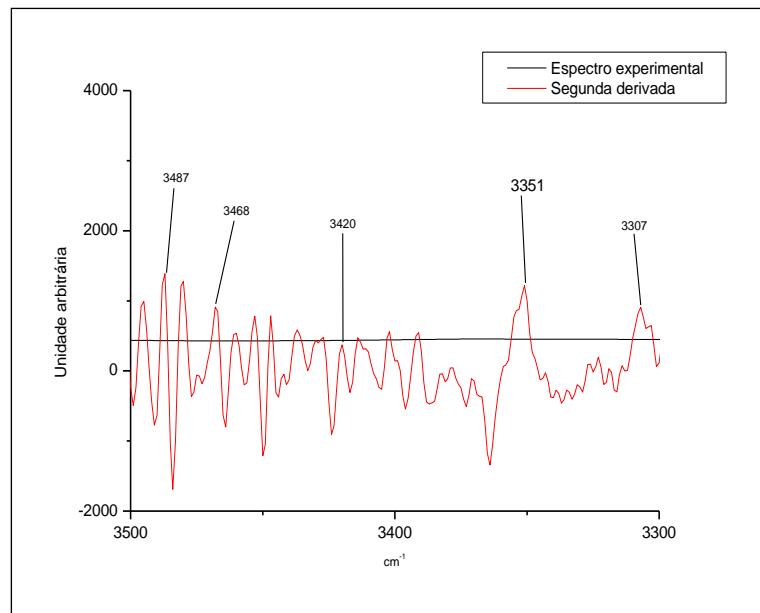
Zn(Gli-val)

Figura A.53- Segunda derivada do IV do Zn(Gli-val) na região (3500-3300) cm^{-1} .

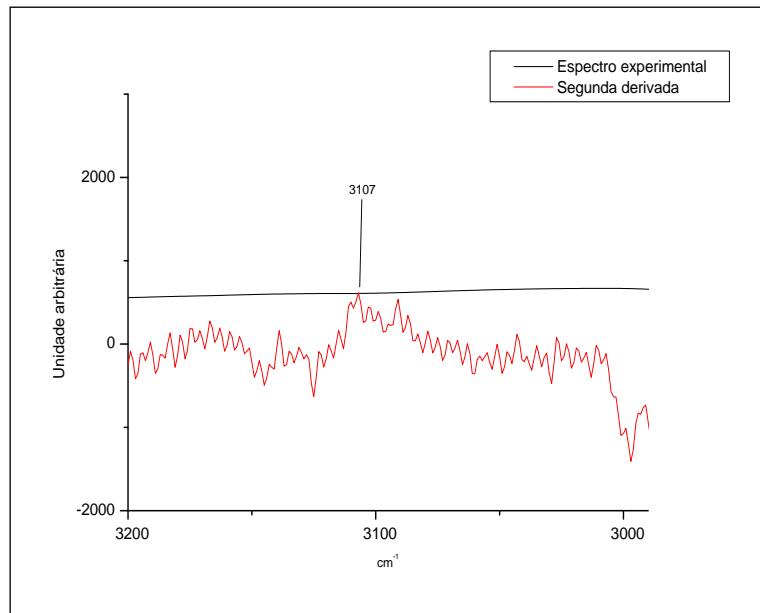


Figura A.54- Segunda derivada do IV do Zn(Gli-val) na região (3200-3000) cm^{-1} .

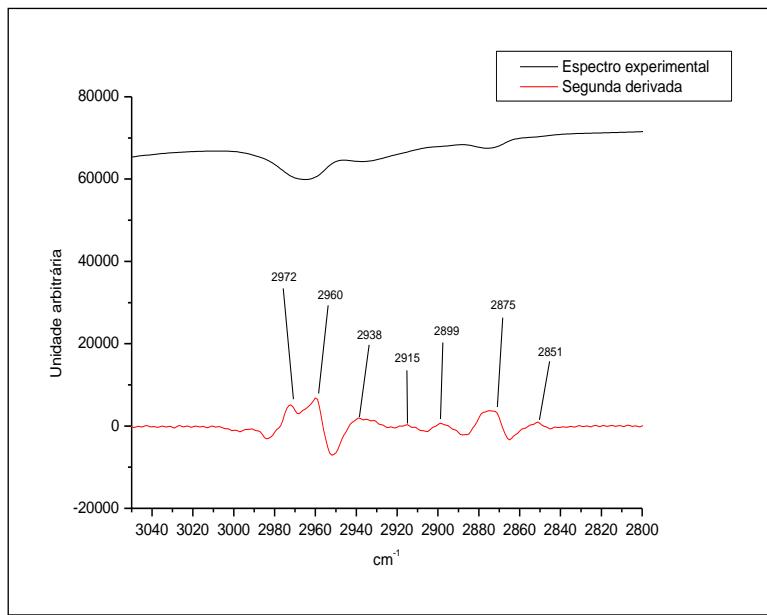


Figura A.55- Segunda derivada do IV do Zn(Gli-val) na região (3050-2800) cm⁻¹.

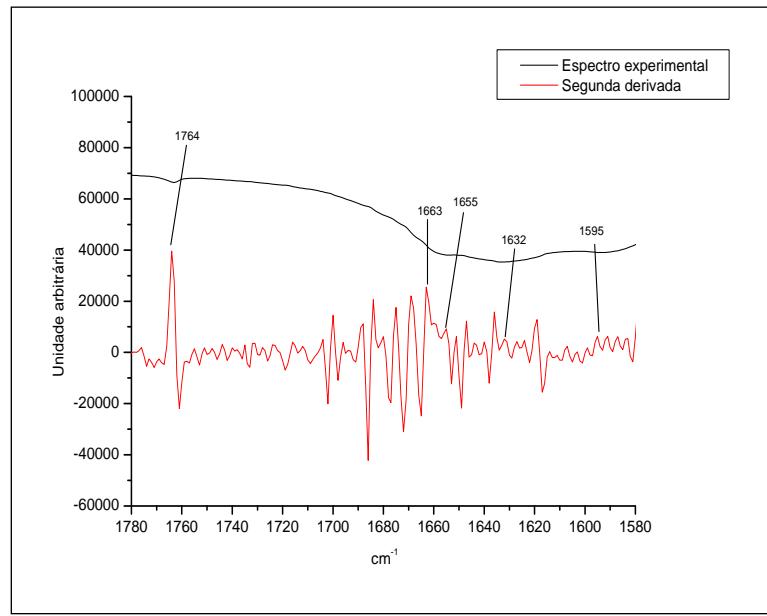


Figura A.56- Segunda derivada do IV do Zn(Gli-val) na região (1780-1580)cm⁻¹.

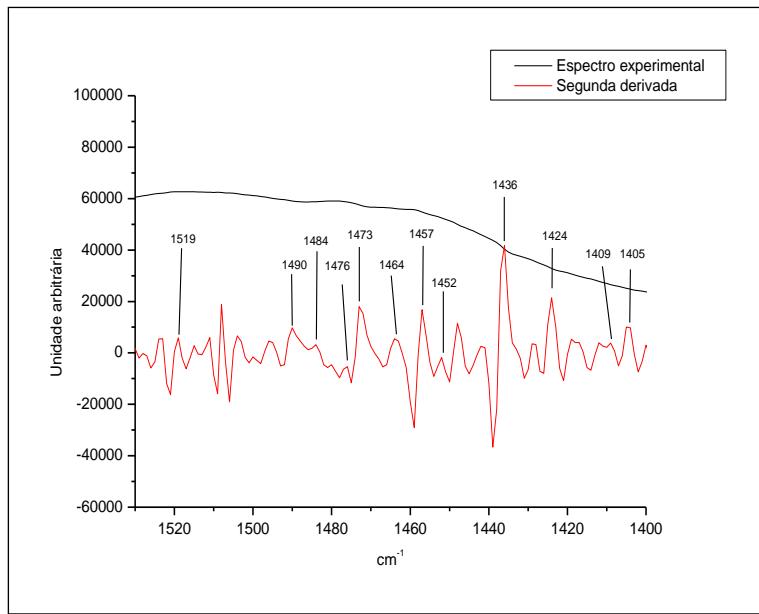


Figura A.57- Segunda derivada do IV do Zn(Gli-val) na região (1530-1400) cm⁻¹.

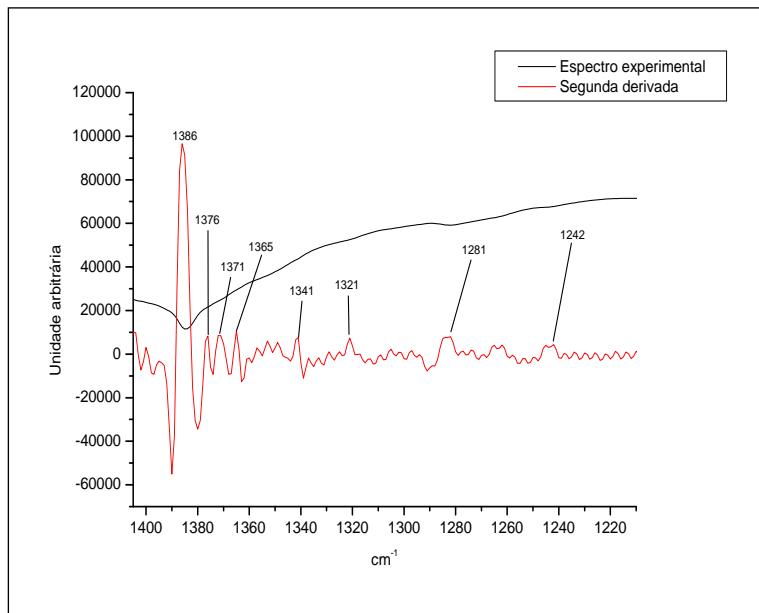


Figura A.58- Segunda derivada do IV do Zn(Gli-val) na região (1405-1210) cm⁻¹.

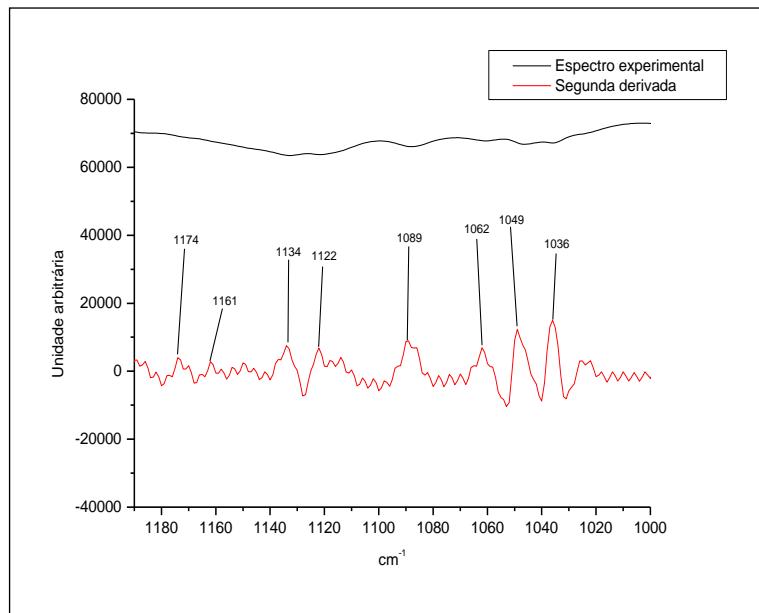


Figura A.59- Segunda derivada do IV do Zn(Gli-val) na região (1190-1000) cm⁻¹.

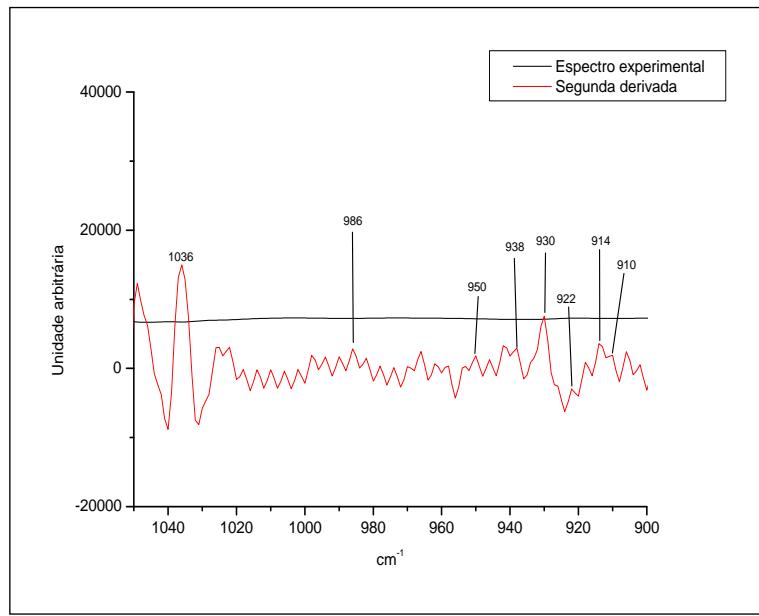


Figura A.60- Segunda derivada do IV do Zn(Gli-val) na região (1050-900) cm⁻¹.

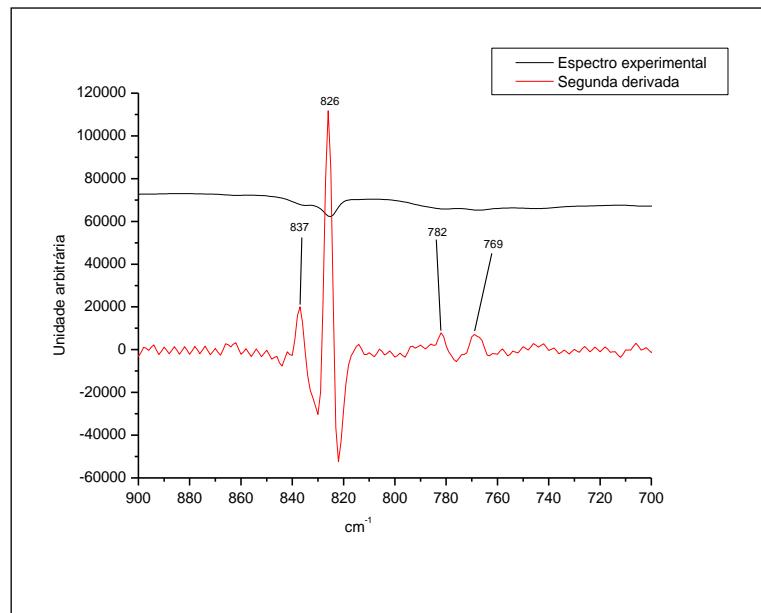


Figura A.61:- Segunda derivada do IV do Zn(Gli-val) na região (900-700) cm^{-1} .

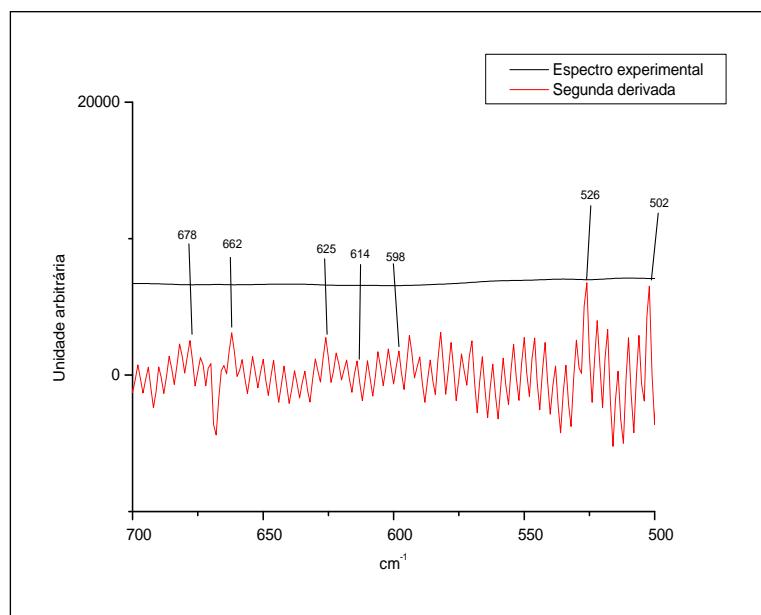


Figura A.62: Segunda derivada do IV do Zn(Gli-val) na região (700-500) cm^{-1} .

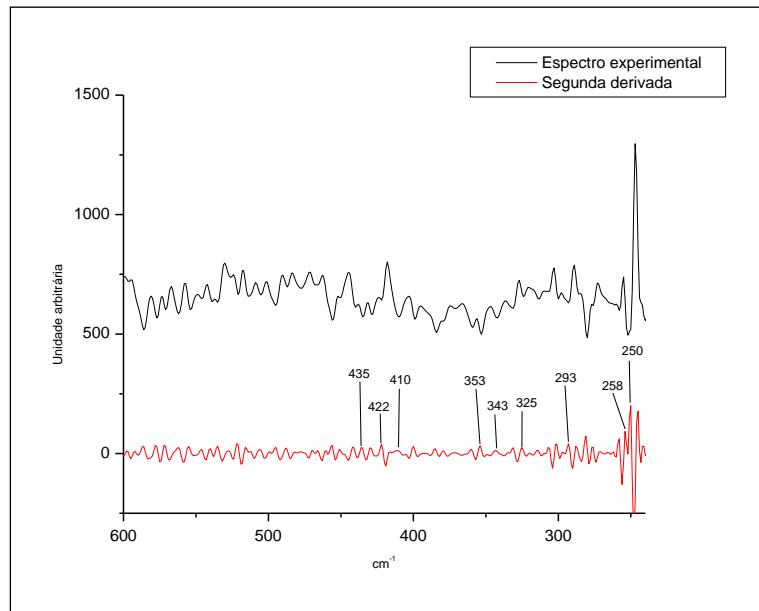


Figura A.63- Segunda derivada do IV do Zn(Gli-val) na região (600-250) cm⁻¹.

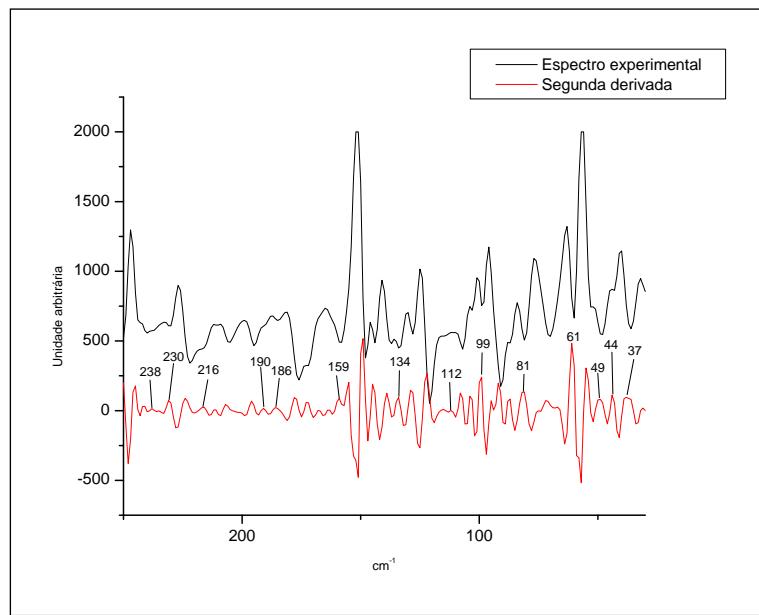


Figura A.64- Segunda derivada do IV do Zn(Gli-val) na região (250-30) cm⁻¹.

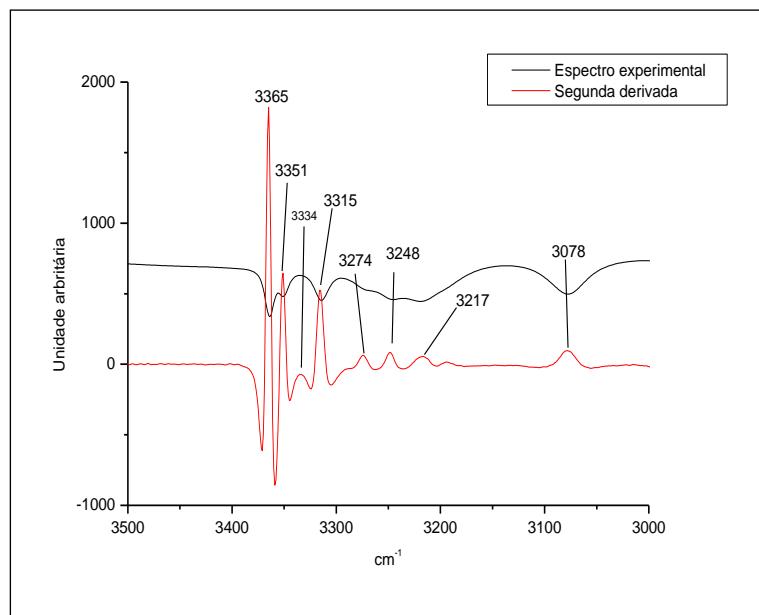
Zn(Gli-val)₂

Figura A.65- Segunda derivada do IV do Zn(Gli-val)₂ na região (3500-3000) cm⁻¹.

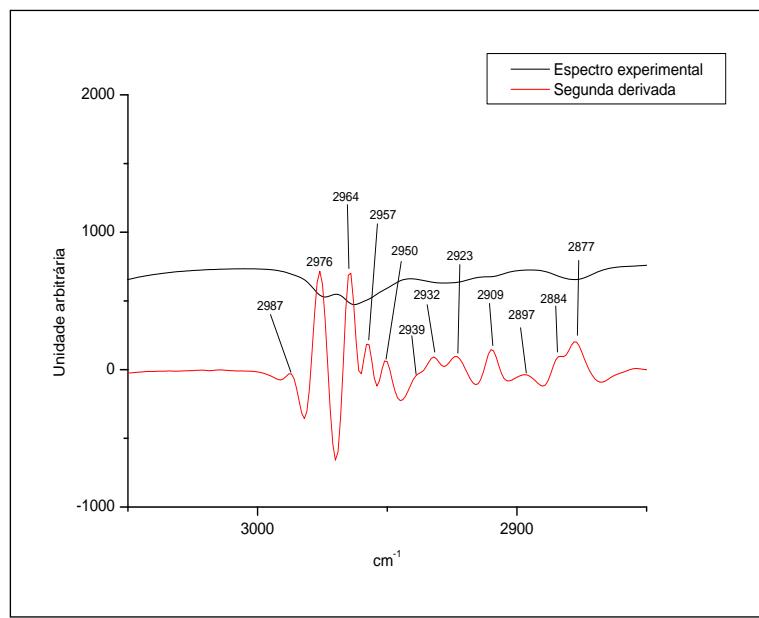


Figura A.66- Segunda derivada do IV do Zn(Gli-val)₂ na região (3050-2850) cm⁻¹.

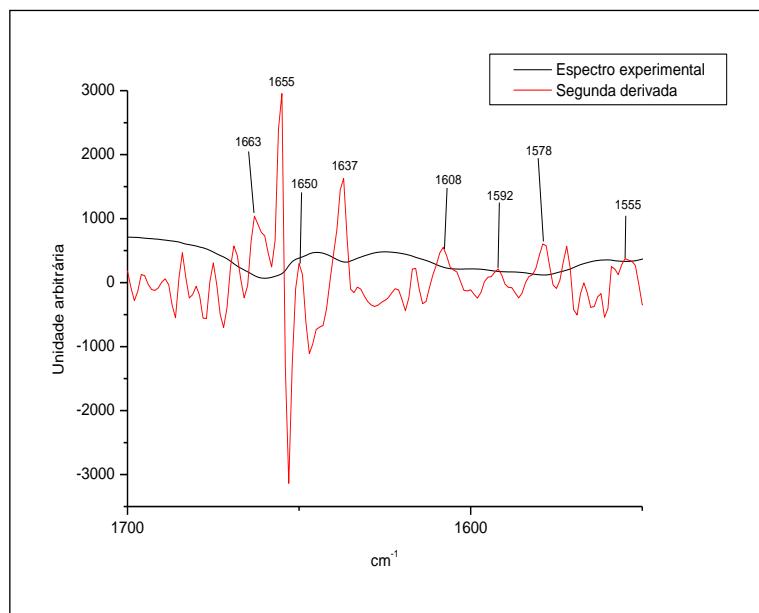


Figura A.67- Segunda derivada do IV do Zn(Gli-val)₂ na região (1700-1550) cm⁻¹.

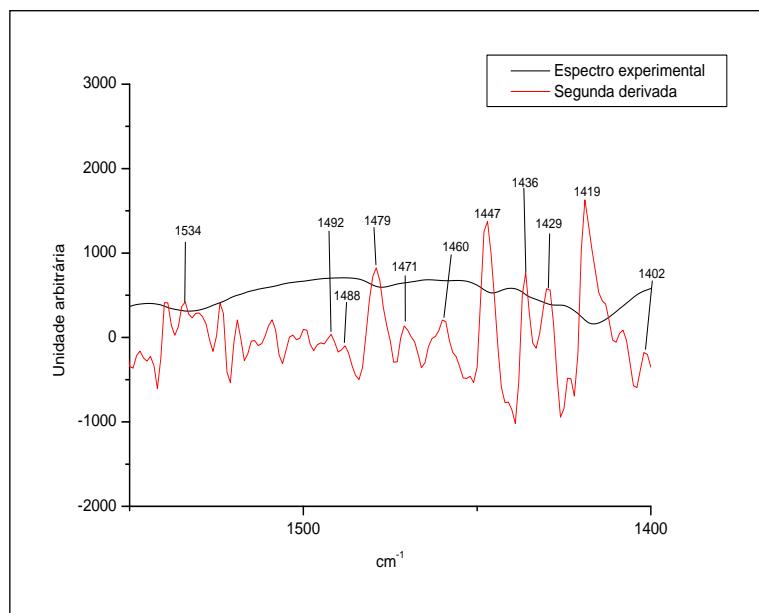


Figura A.68- Segunda derivada do IV do Zn(Gli-val)₂ na região (1550-1400) cm⁻¹.

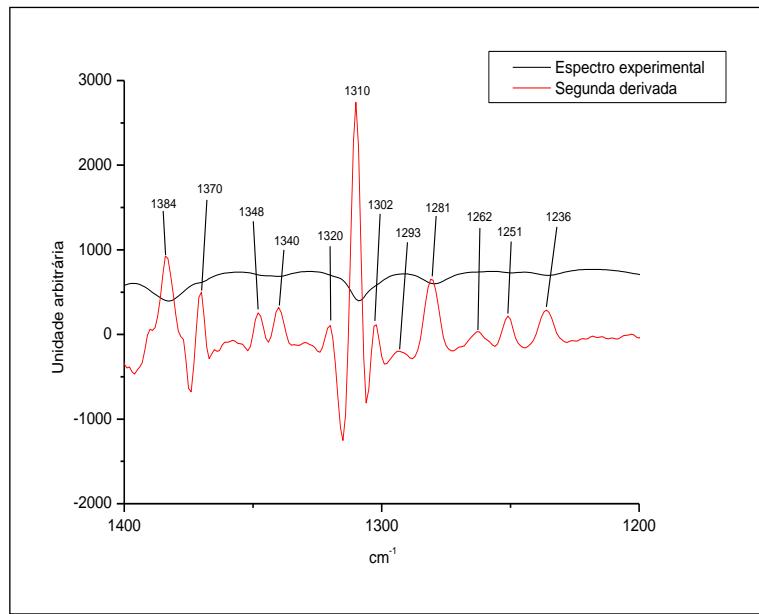


Figura A.69- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (1400-1200) cm^{-1} .

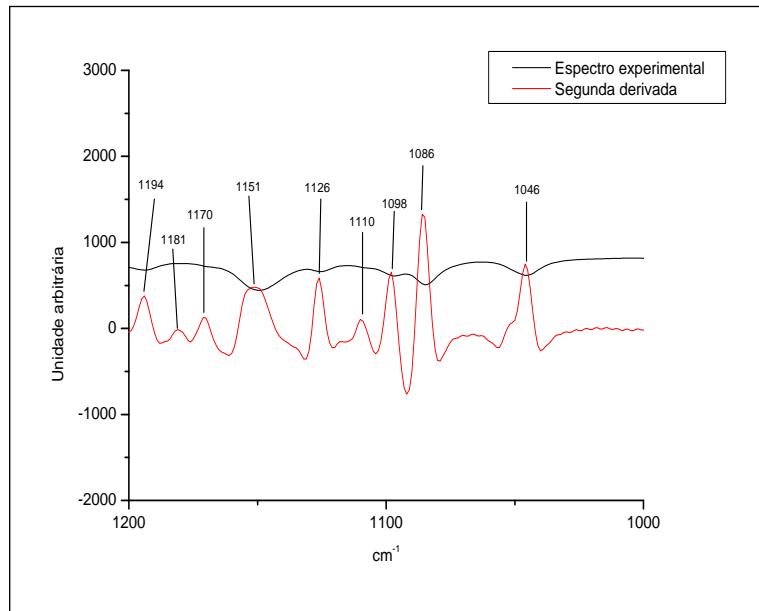


Figura A.70- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (1200-1000) cm^{-1} .

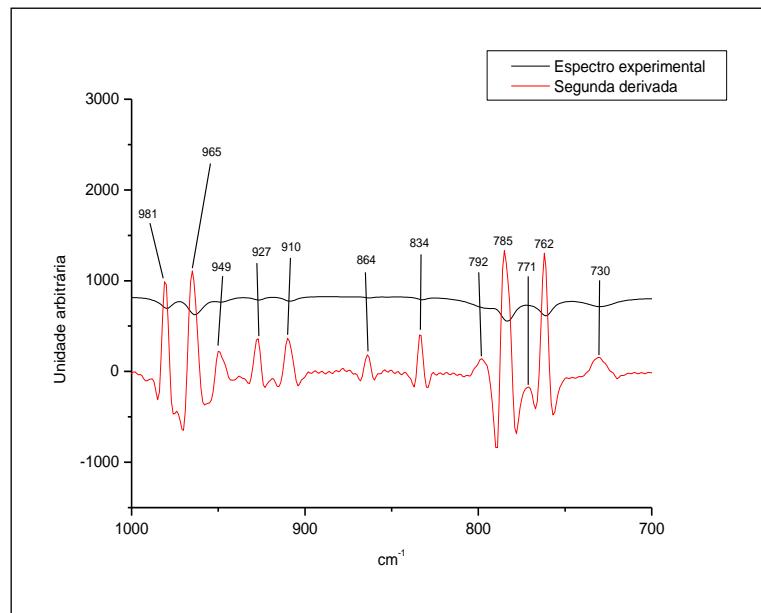


Figura A.71- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (1000-700) cm^{-1} .

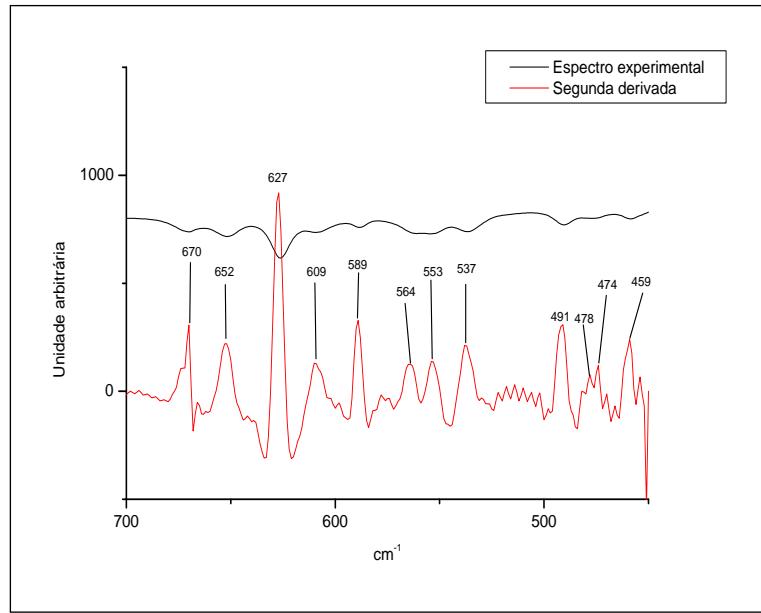


Figura A.72- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (700-450) cm^{-1} .

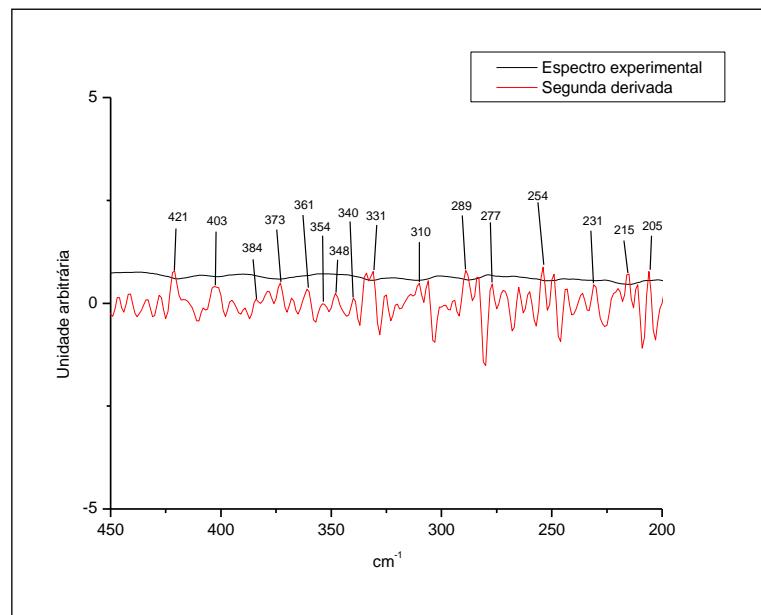


Figura A.73- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (450-200) cm^{-1} .

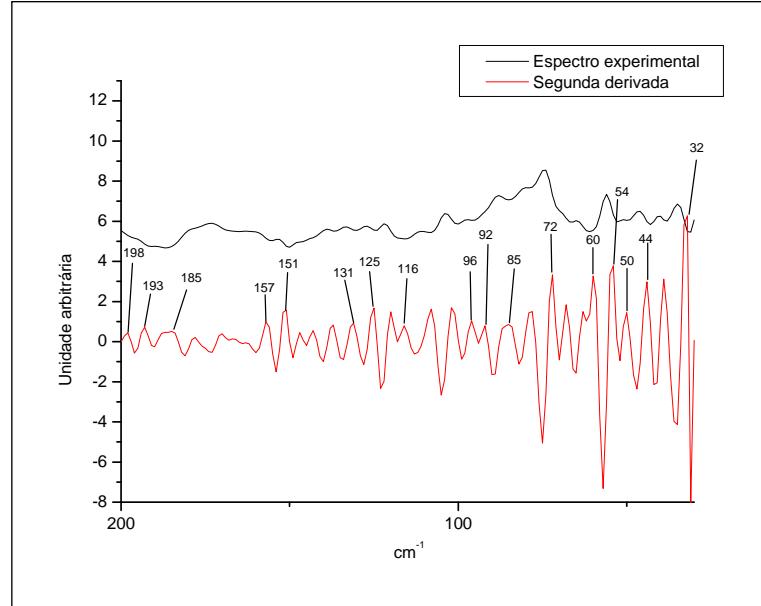


Figura A.74- Segunda derivada do IV do $\text{Zn}(\text{Gli-val})_2$ na região (200-30) cm^{-1} .

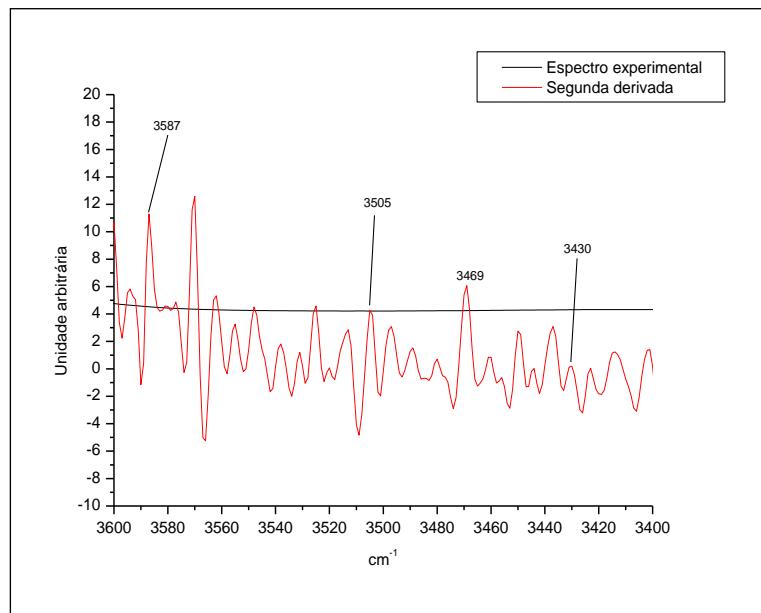
Zn(Cis-gli)

Figura A.75- Segunda derivada do IV do Zn(Cis-gli) na região (3600-3400) cm⁻¹.

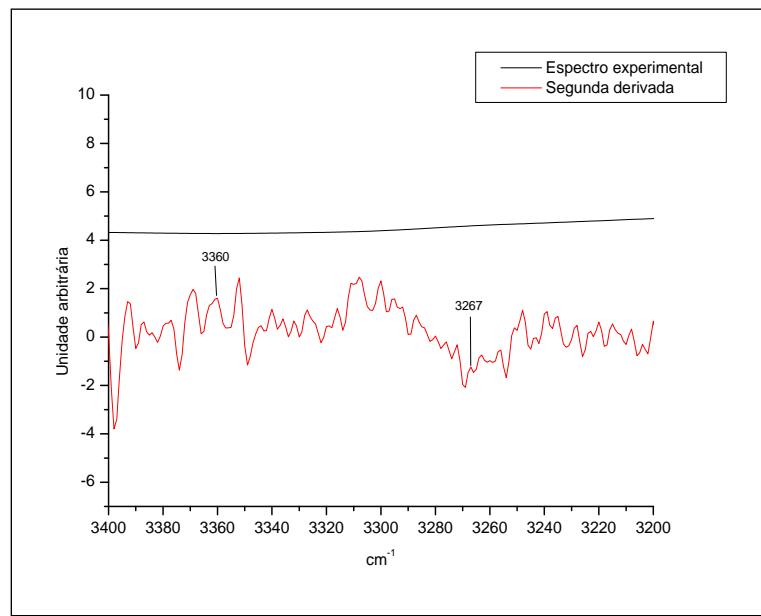


Figura A.76- Segunda derivada do IV do Zn(Cis-gli) na região (3400-3200) cm⁻¹.

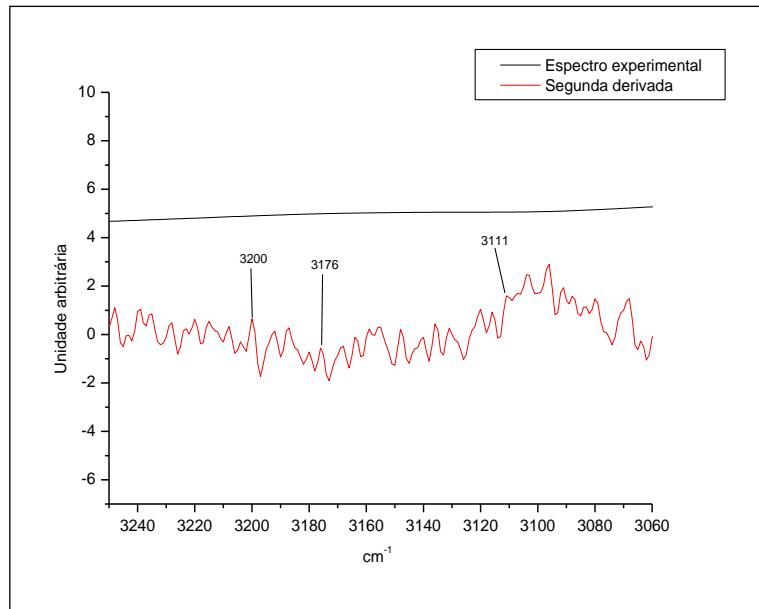


Figura A.77- Segunda derivada do IV do Zn(Cis-gli)_n a região (3250-3060) cm⁻¹.

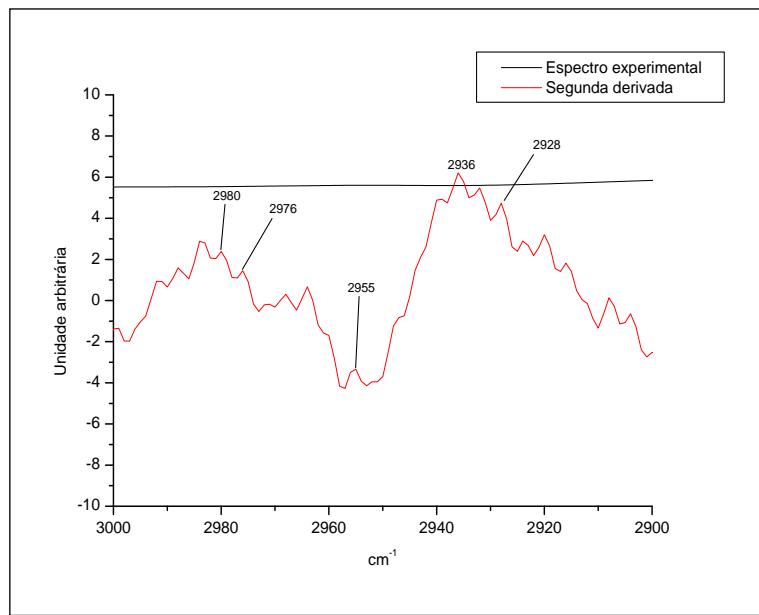


Figura A.78- Segunda derivada do IV do Zn(Cis-gli) na região (3000-2900) cm⁻¹.

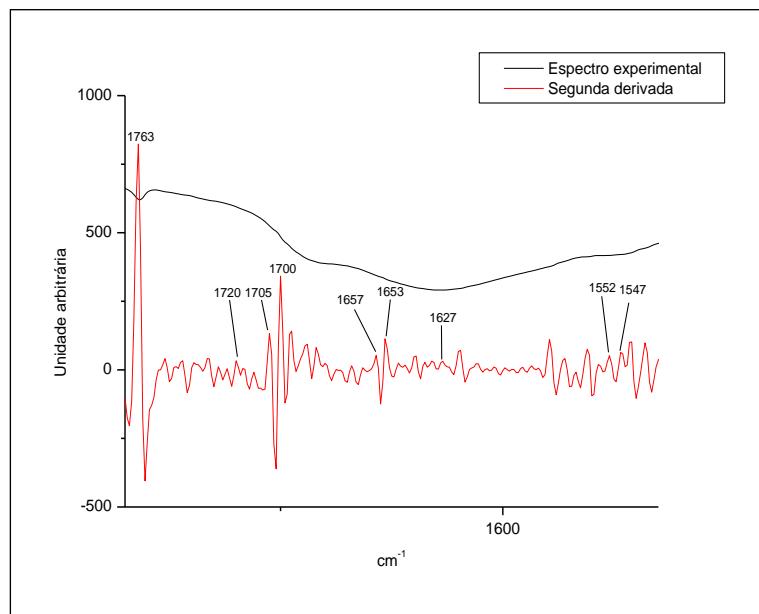


Figura A.79- Segunda derivada do IV do Zn(Cis-gli) na região (1770-1530) cm⁻¹.

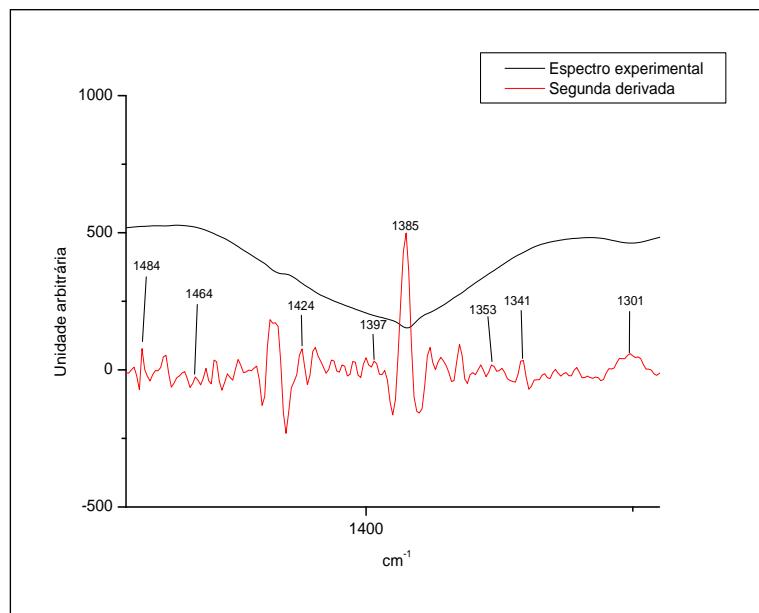


Figura A.80- Segunda derivada do IV do Zn(Cis-gli) na região (1480-1287) cm⁻¹.

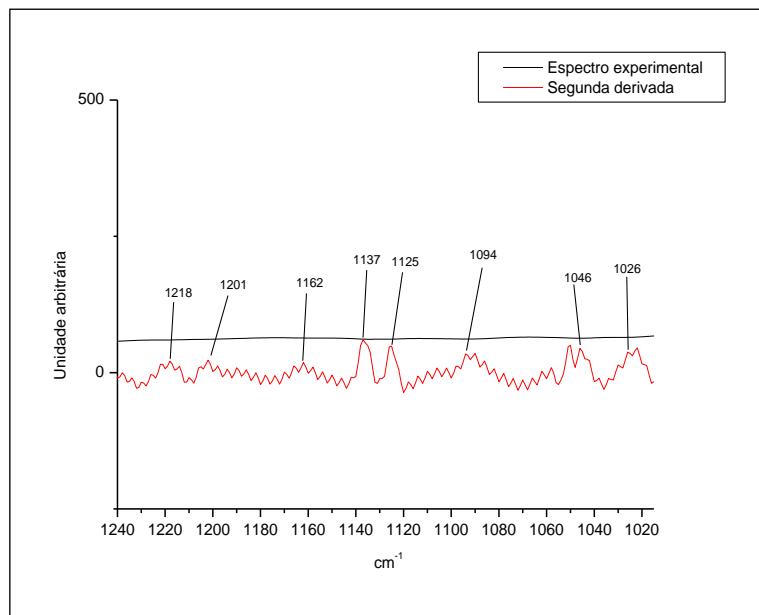


Figura A.81- Segunda derivada do IV do Zn(Cis-gli) na região (1240-1020) cm^{-1} .

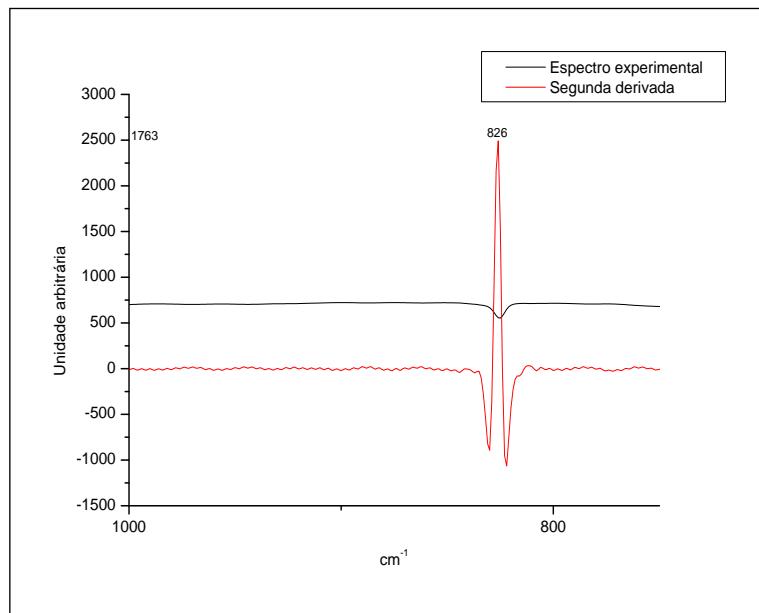


Figura A.82- Segunda derivada do IV do Zn(Cis-gli) na região (1000-750) cm^{-1} .

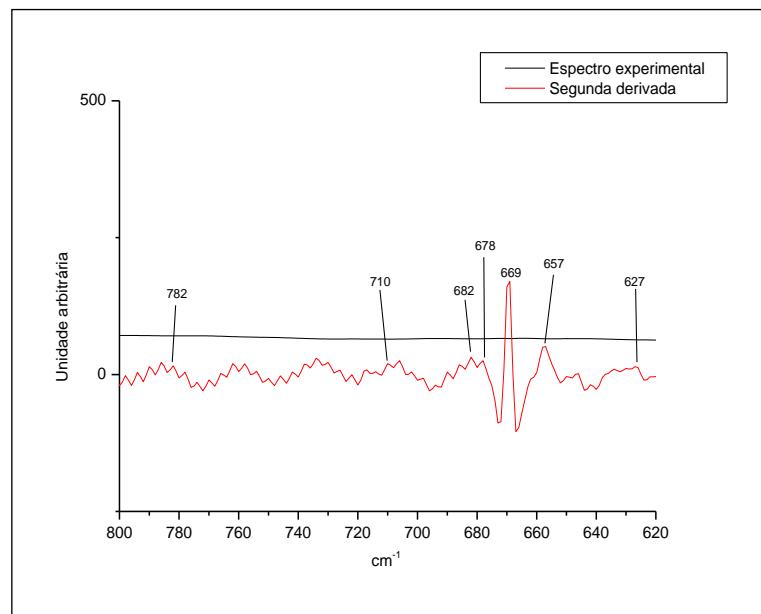


Figura A.83- Segunda derivada do IV do Zn(Cis-gli) na região (800-620) cm⁻¹.

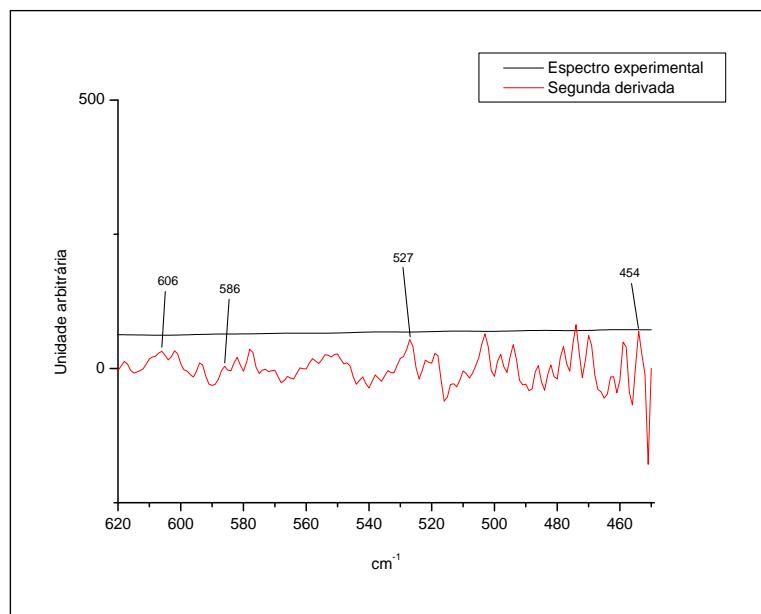


Figura A.84- Segunda derivada do IV do Zn(Cis-gli) na região (620-450) cm⁻¹.

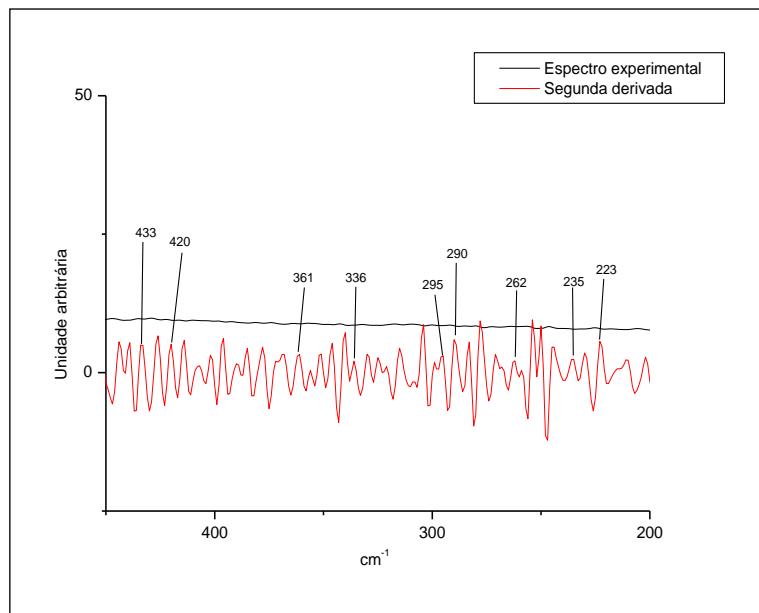


Figura A.85- Segunda derivada do IV do Zn(Cis-gli) na região (500-200) cm⁻¹.

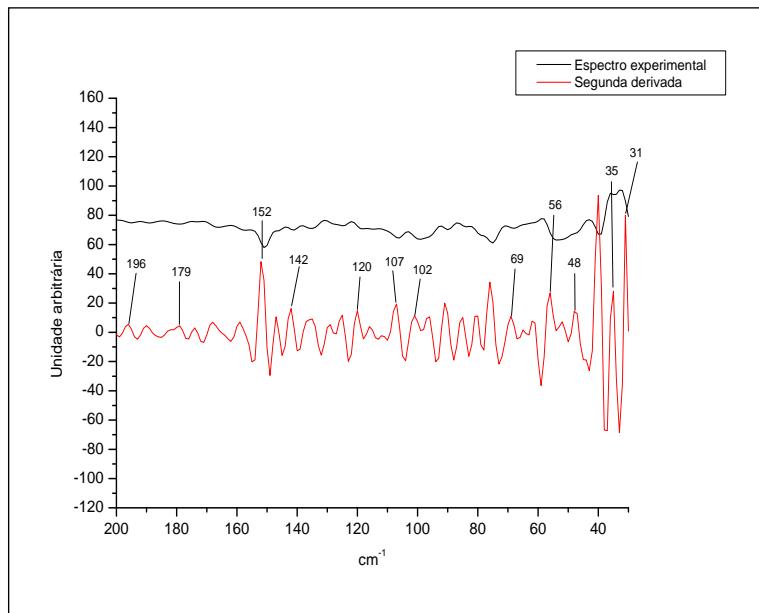


Figura A.86- Segunda derivada do IV do Zn(Cis-gli) na região (200-30) cm⁻¹.

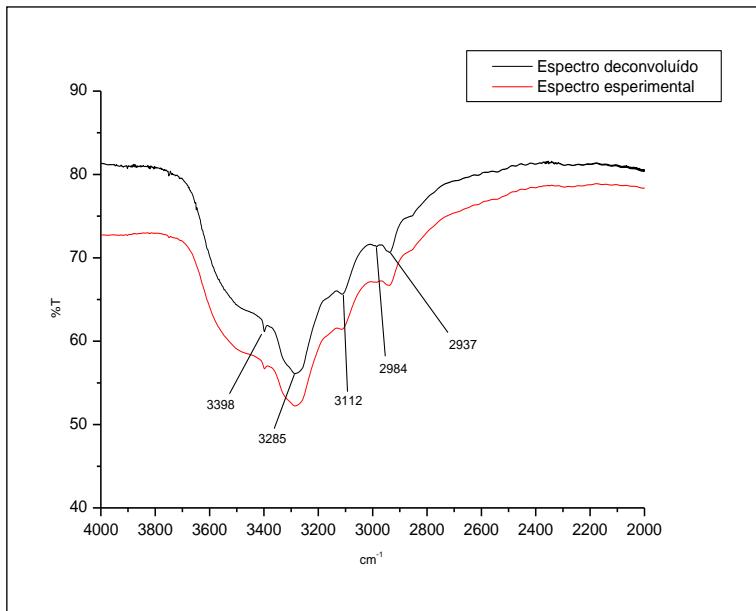
A.2.6**Deconvolução dos espectros dos complexos de zinco
Zn(Gli-gli)**

Figura A.87- Deconvolução do espectro de IV do Zn(Gli-gli) na região (4000-2000) cm^{-1} .

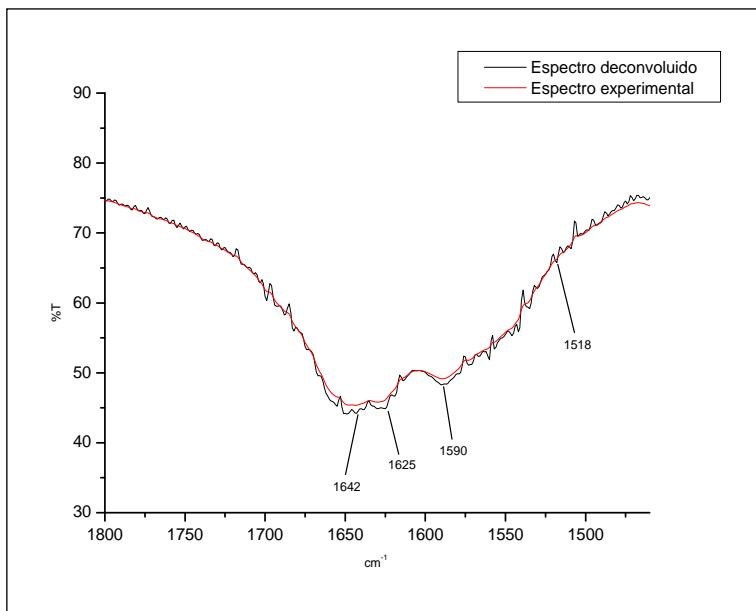


Figura A.88- Deconvolução do espectro de IV do Zn(Gli-gli) na região (1860-1460) cm^{-1} .

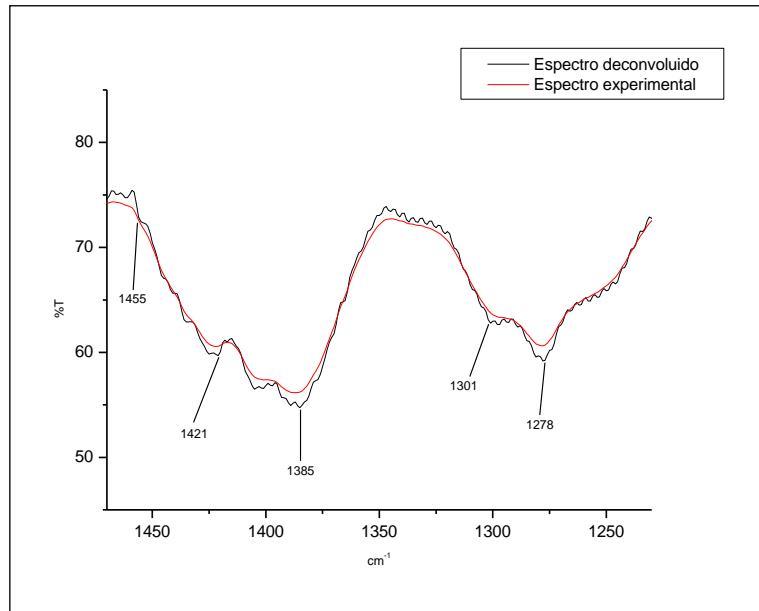


Figura A.89- Deconvolução do espectro de IV do Zn(Gli-gli) na região (1470-1230) cm⁻¹.

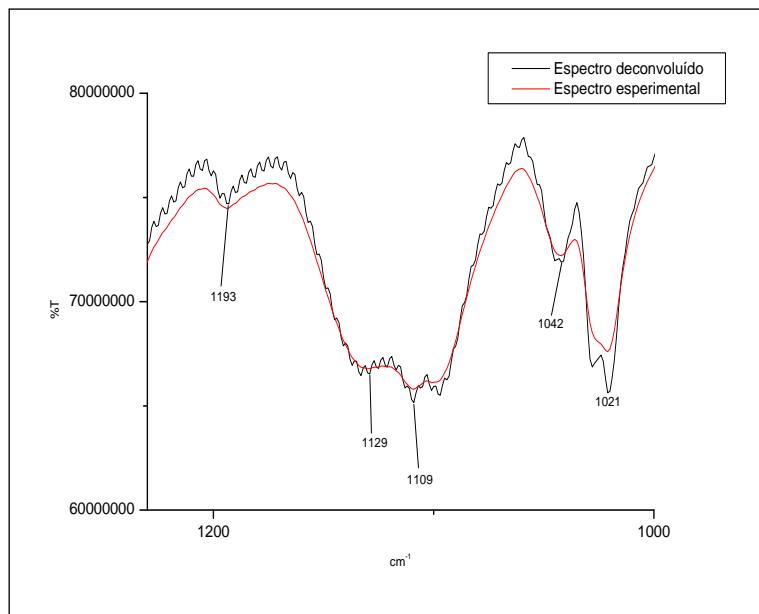


Figura A.90- Deconvolução do espectro de IV do Zn(Gli-gli) na região (1230-1000) cm⁻¹.

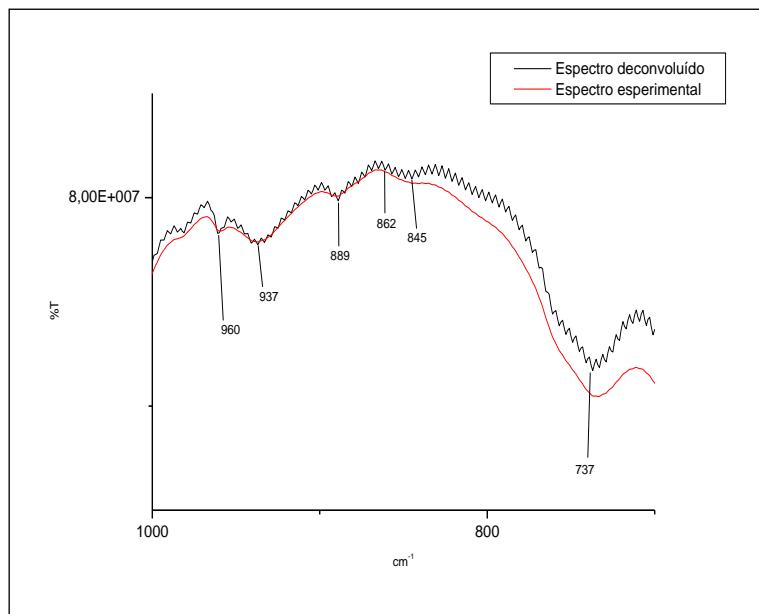


Figura A.91- Deconvolução do espectro de IV do Zn(Gli-gli) na região (1000-700) cm⁻¹.

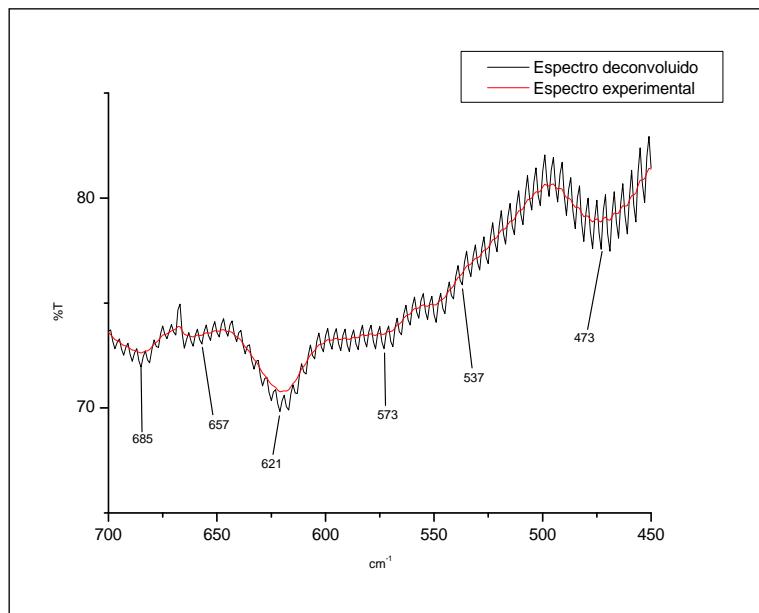


Figura A.92- Deconvolução do espectro de IV do Zn(Gli-gli) na região (700-450) cm⁻¹.

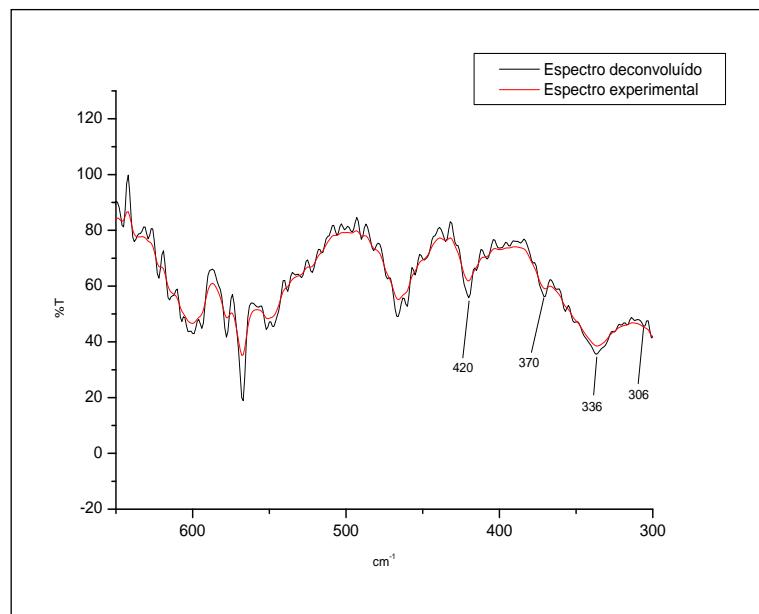


Figura A.93- Deconvolução do espectro de IV do Zn(Gli-gli) na região (650-300) cm⁻¹.

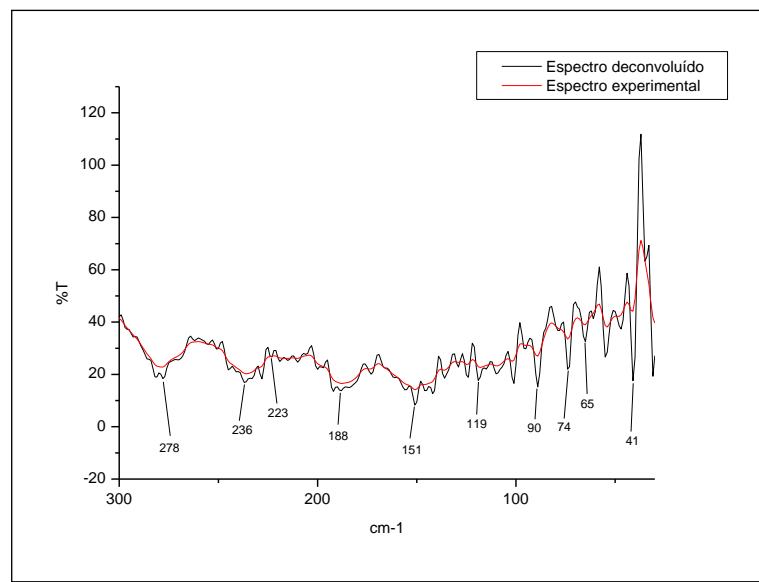


Figura A.94- Deconvolução do espectro de IV do Zn(Gli-gli) na região (300-30) cm⁻¹.

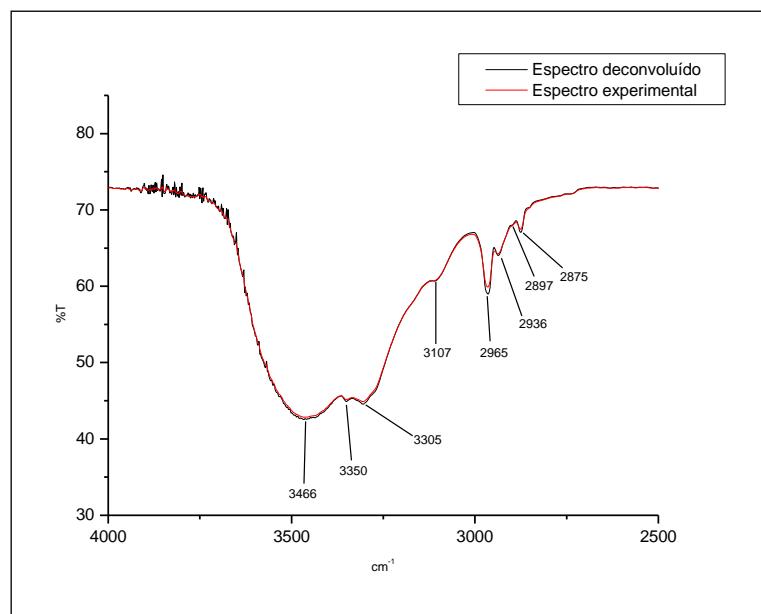
Zn(Gli-val)

Figura A.95- Deconvolução do espectro de IV do Zn(Gli-val) na região (4000-2500) cm⁻¹.

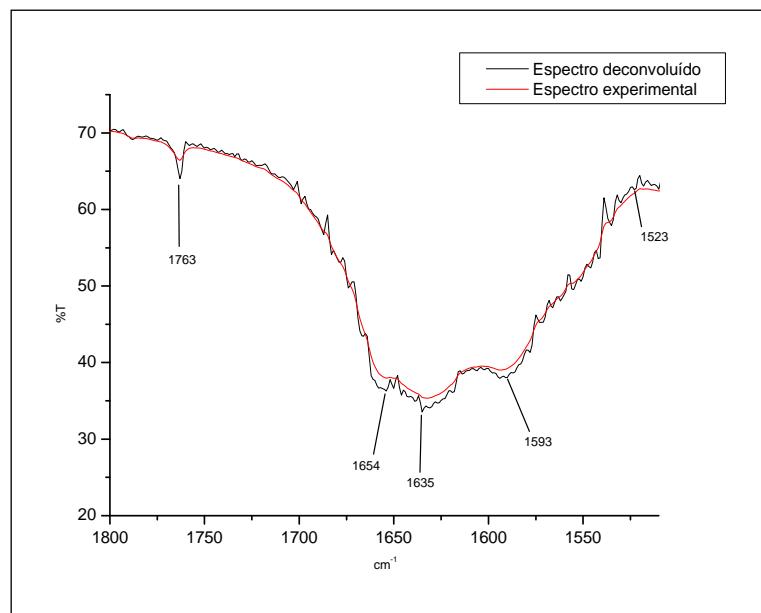


Figura A.96- Deconvolução do espectro de IV do Zn(Gli-val) na região (1800-1510) cm⁻¹.

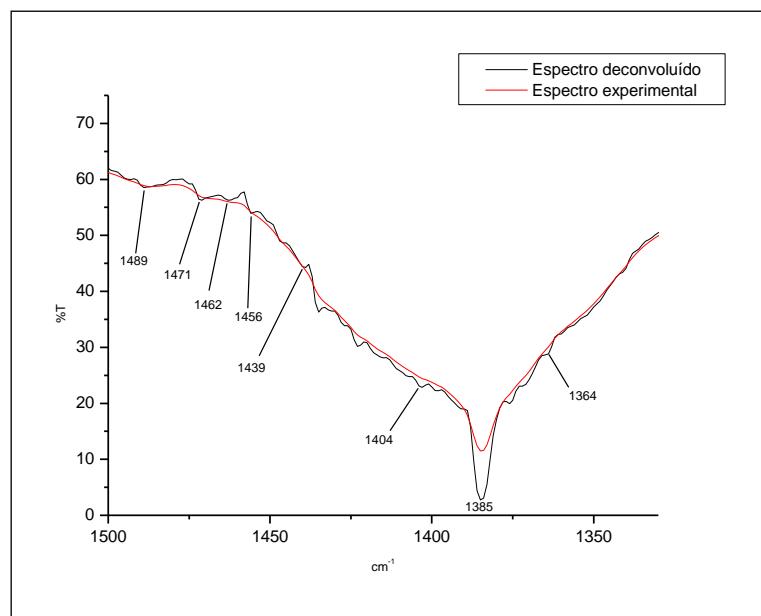


Figura A.97- Deconvolução do espectro de IV do Zn(Gli-val) na região (1500-1330) cm^{-1} .

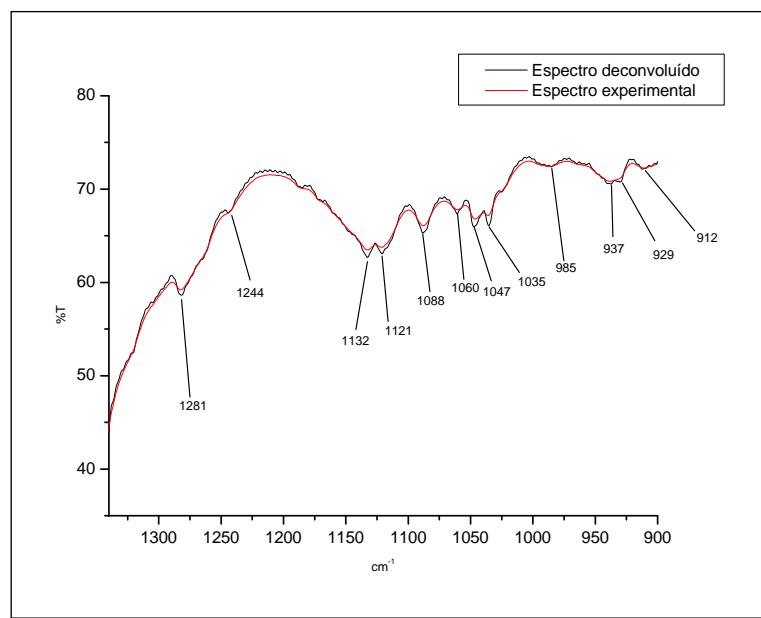


Figura A.98- Deconvolução do espectro de IV do Zn(Gli-val) na região (1340-900) cm^{-1} .

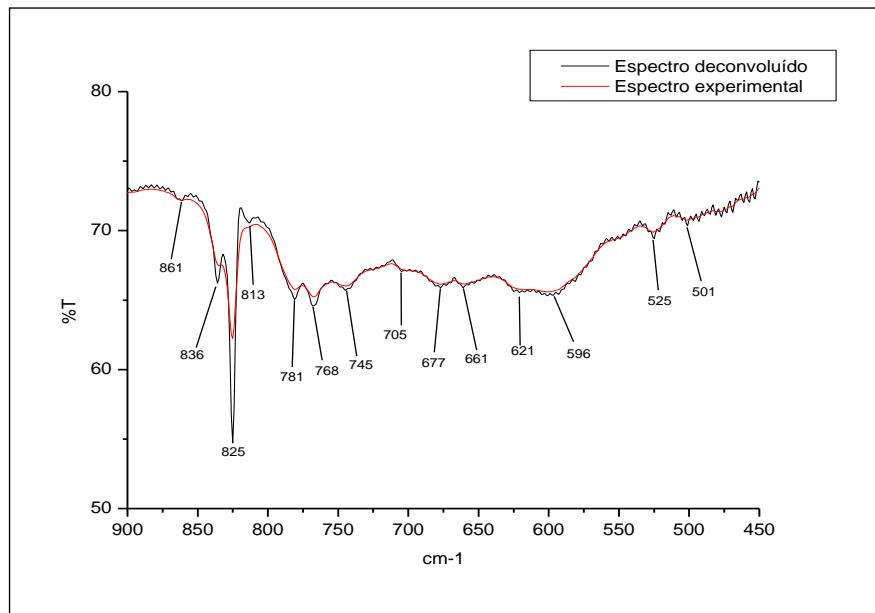


Figura A.99- Deconvolução do espectro de IV do Zn(Gli-val) na região (900-450) cm⁻¹.

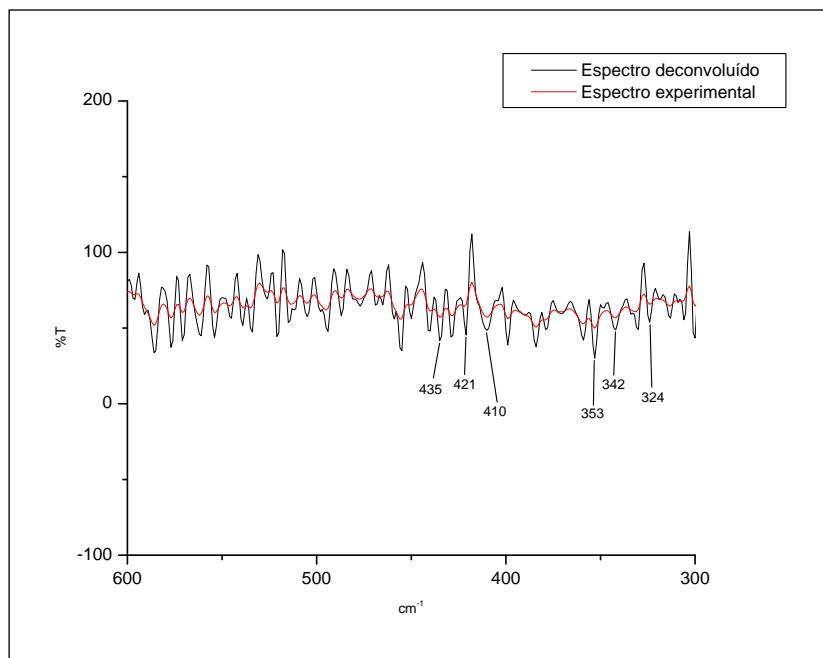


Figura A.100- Deconvolução do espectro de IV do Zn(Gli-val) na região (600-300) cm⁻¹.

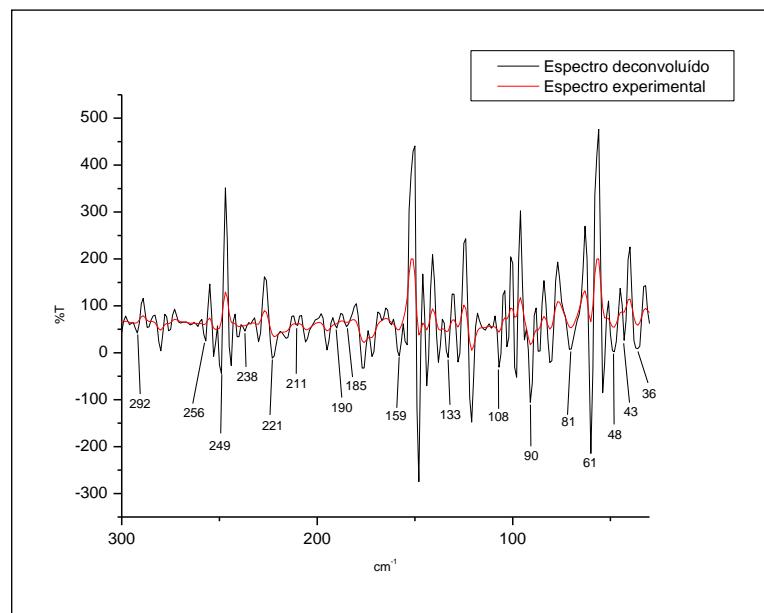


Figura A.101- Deconvolução do espectro de IV do Zn(Gli-val) na região (300-30) cm^{-1} .

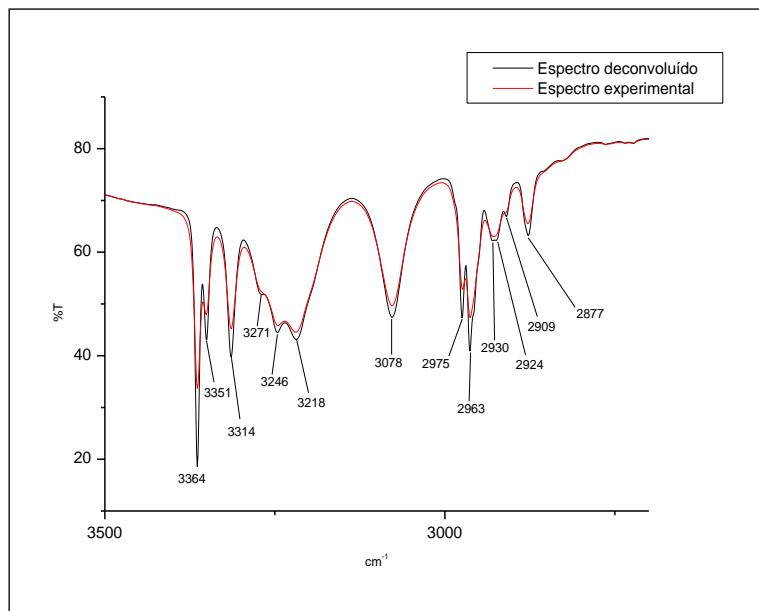
Zn(Gli-val)₂

Figura A.102- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (3500-2700) cm⁻¹.

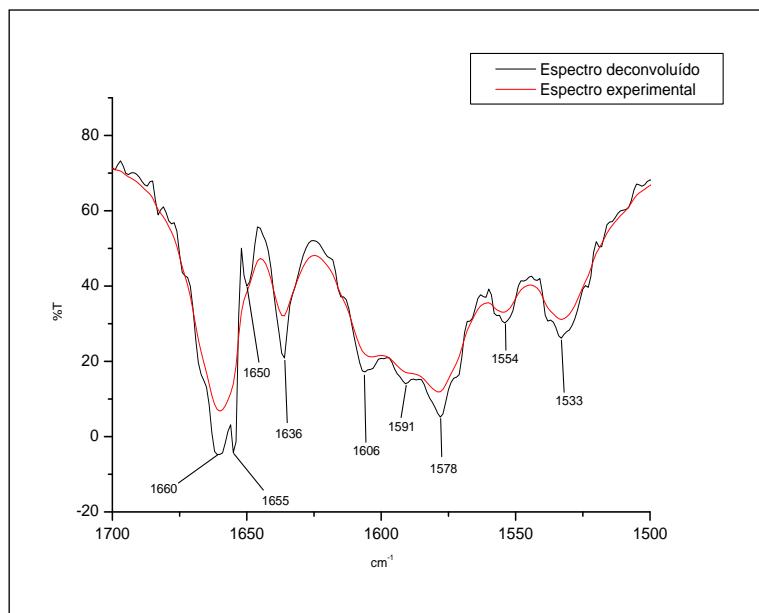


Figura A.103- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (1700-1500) cm⁻¹.

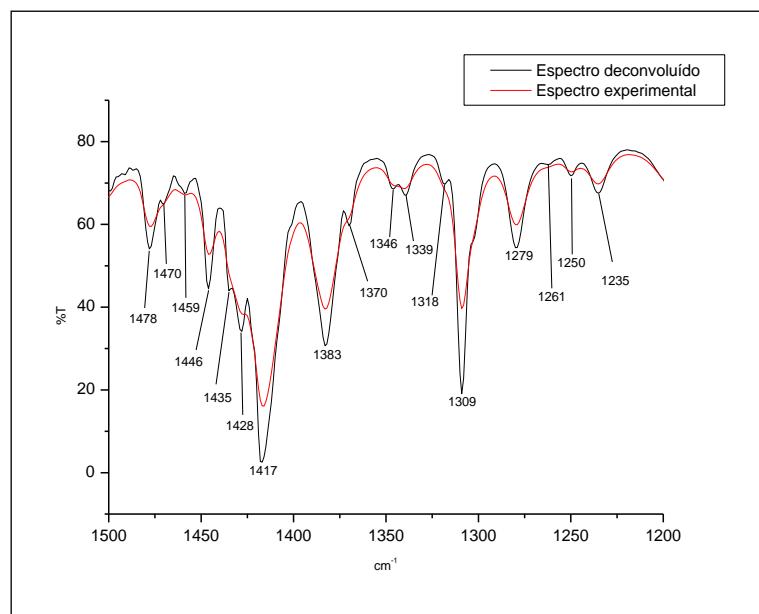


Figura A.104- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (1500-1200) cm⁻¹.

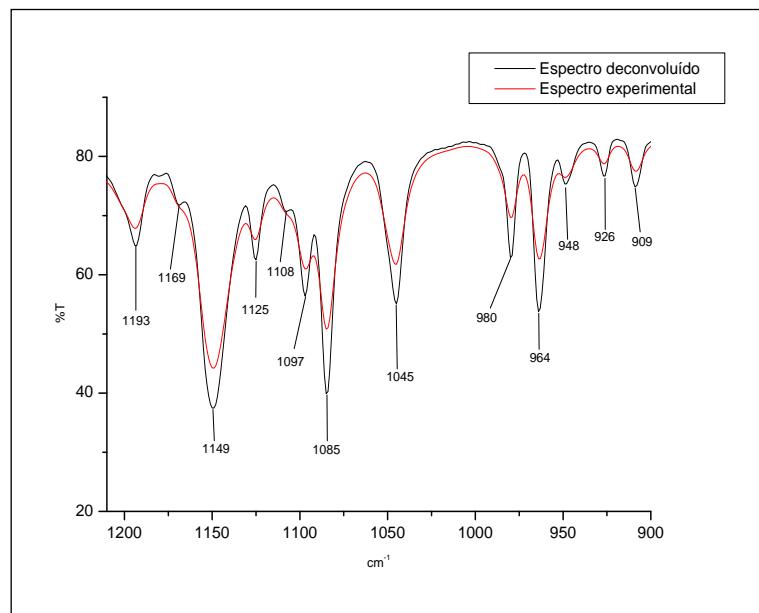


Figura A.105- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (1210-900) cm⁻¹.

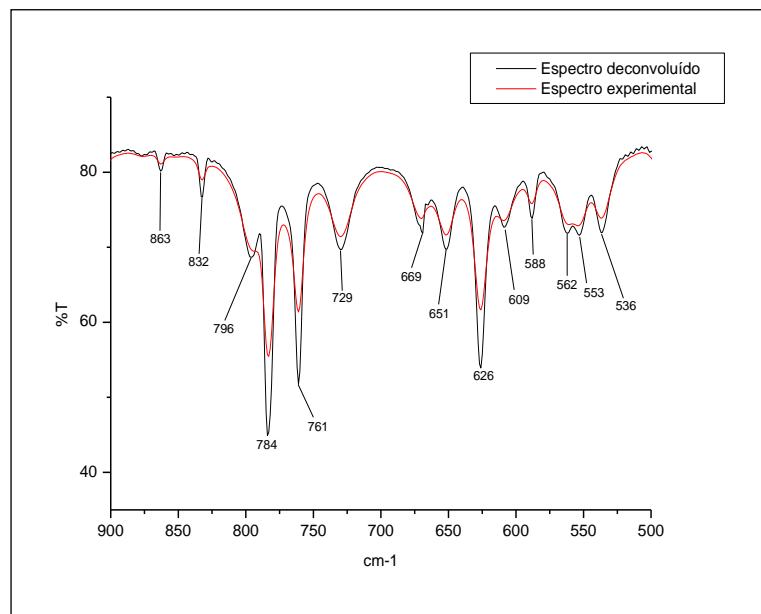


Figura A.106- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (900-500) cm⁻¹.

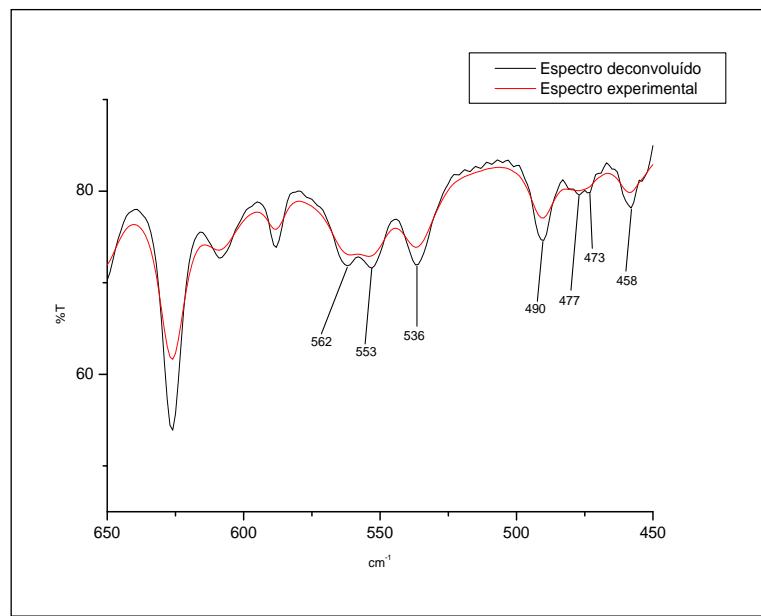


Figura A.107- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (650-450) cm⁻¹.

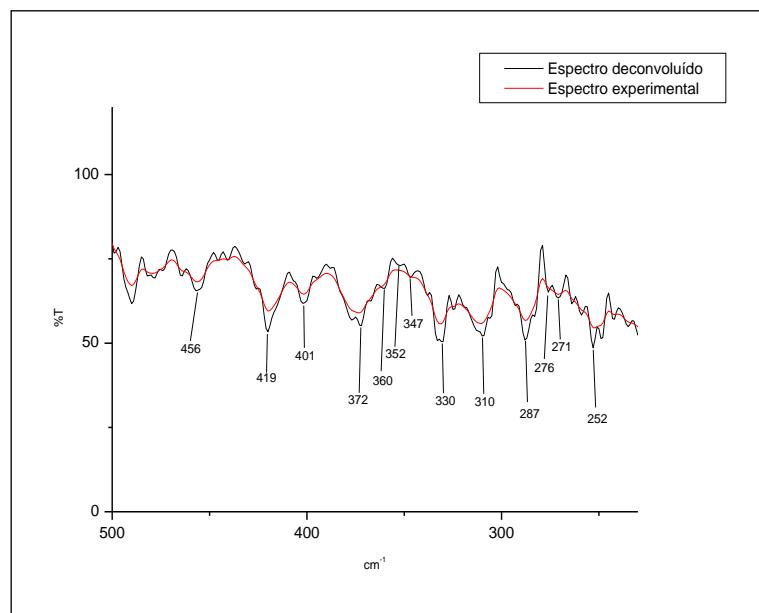


Figura A.108- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (500-230) cm⁻¹.

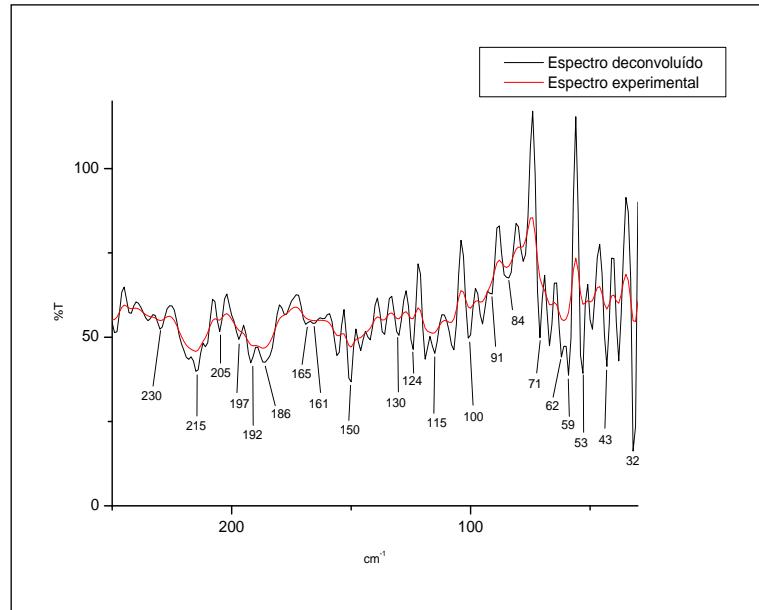


Figura A.109- Deconvolução do espectro de IV do Zn(Gli-val)₂ na região (250-30) cm⁻¹.

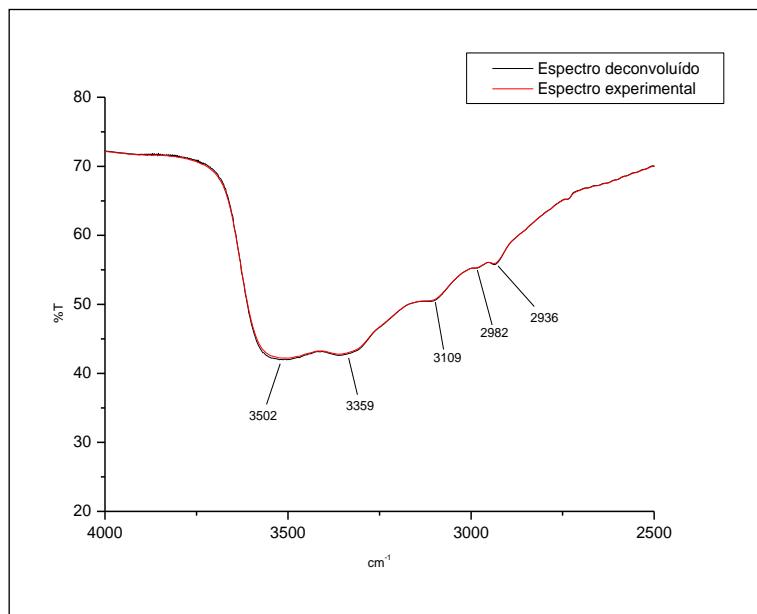
Zn(Cis-gli)

Figura A.110- Deconvolução do espectro de IV do Zn(Cis-gli) na região (4000-2500) cm⁻¹.

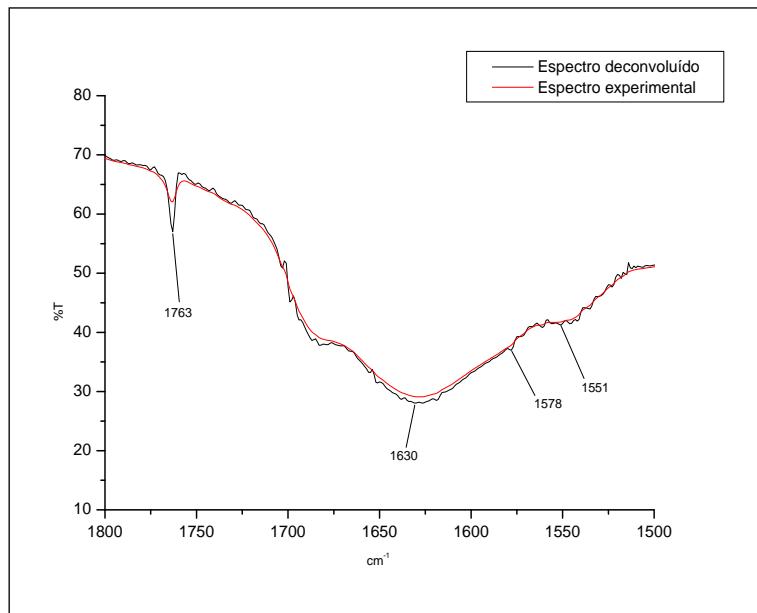


Figura A.111- Deconvolução do espectro de IV do Zn(Cis-gli) na região (1800-1500) cm⁻¹.

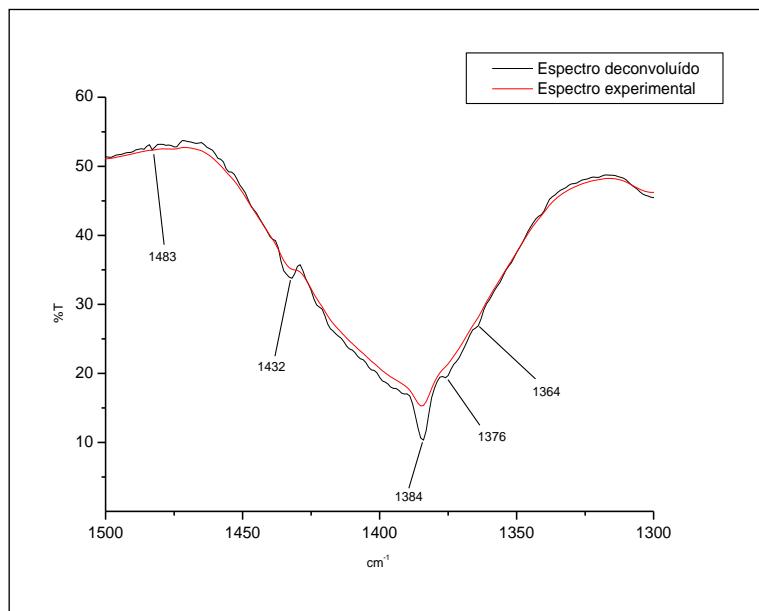


Figura A.112- Deconvolução do espectro de IV do Zn(Cis-gli) na região (1500-1300) cm^{-1} .

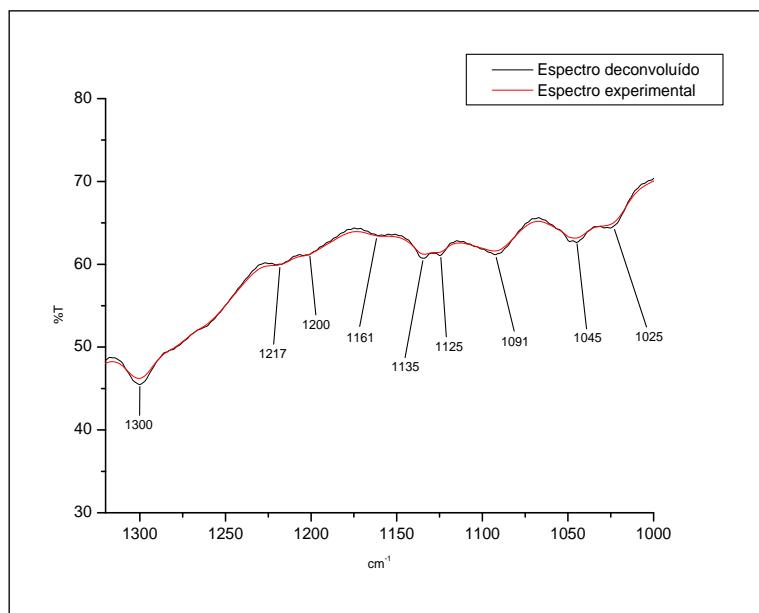


Figura A.113- Deconvolução do espectro de IV do Zn(Cis-gli) na região (1310-1000) cm^{-1} .

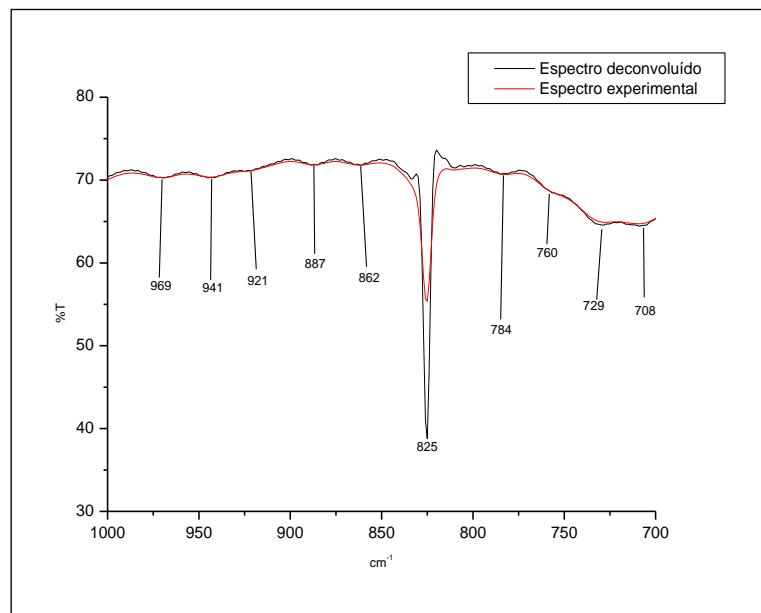


Figura A.114- Deconvolução do espectro de IV do Zn(Cis-gli) na região (1000-700) cm⁻¹.

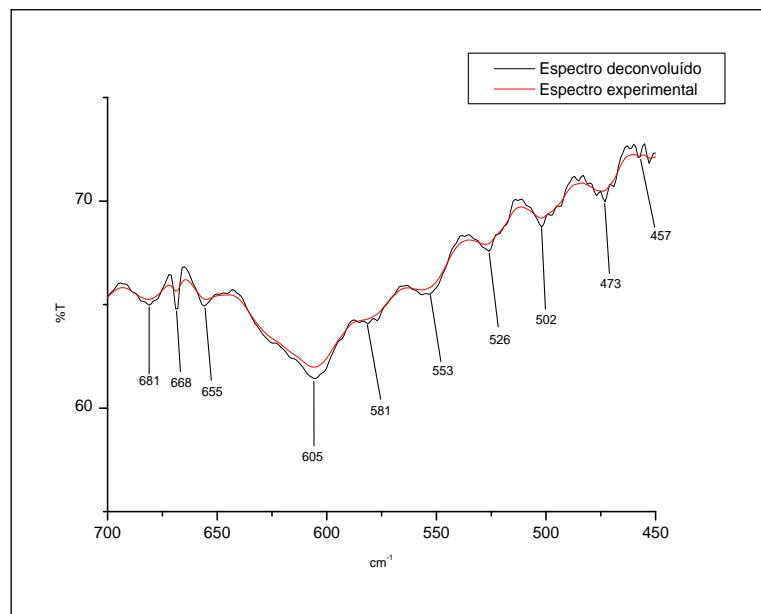


Figura A.115- Deconvolução do espectro de IV do Zn(Cis-gli) na região (700-450) cm⁻¹.

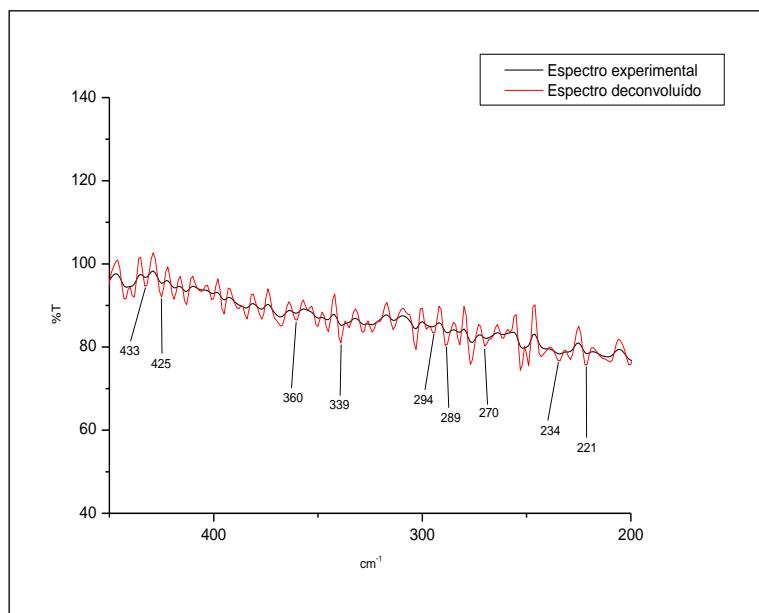


Figura A.116- Deconvolução do espectro de IV do Zn(Cis-gli) na região (450-200) cm^{-1} .

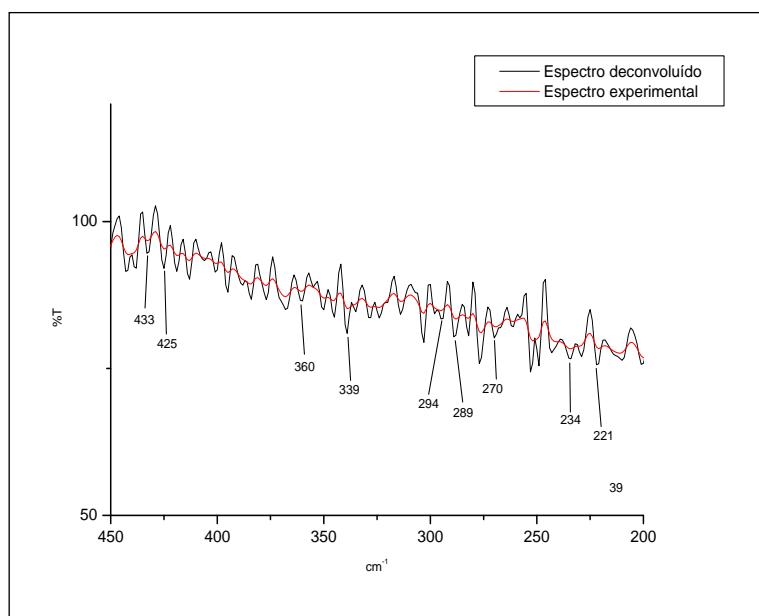


Figura A.117- Deconvolução do espectro de IV do Zn(Cis-gli) na região (200-30) cm^{-1} .

A.3

Raman

A.3.1

Ligantes

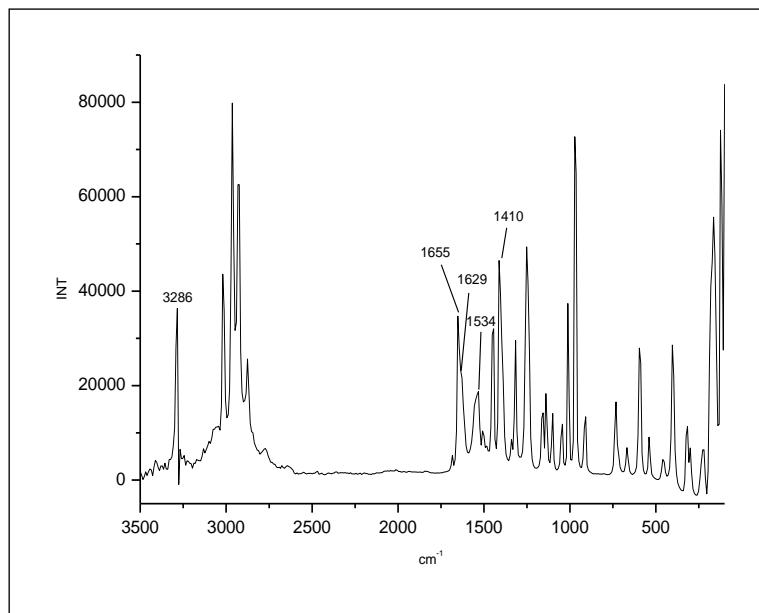


Figura A.118- Raman do ligante Gli-gli na região (3500-100) cm^{-1} .

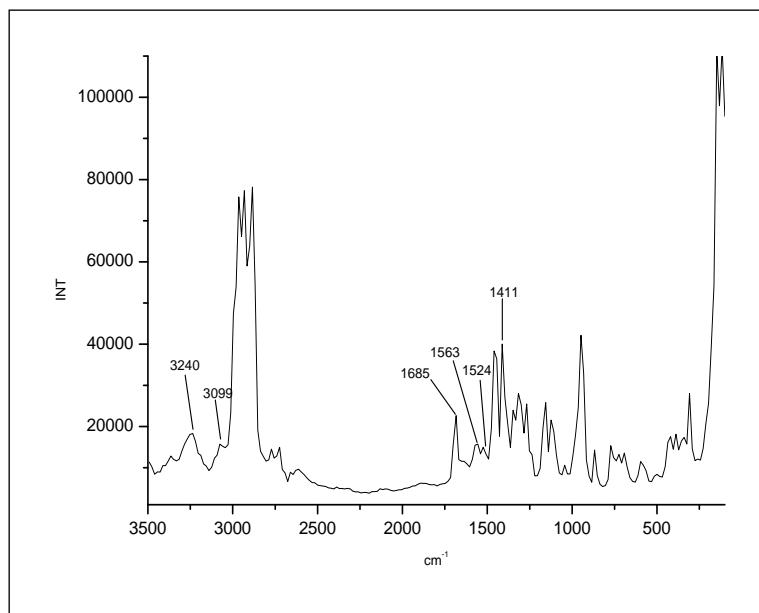


Figura A.119- Raman do ligante Gli-val na região (3500-100) cm^{-1} .

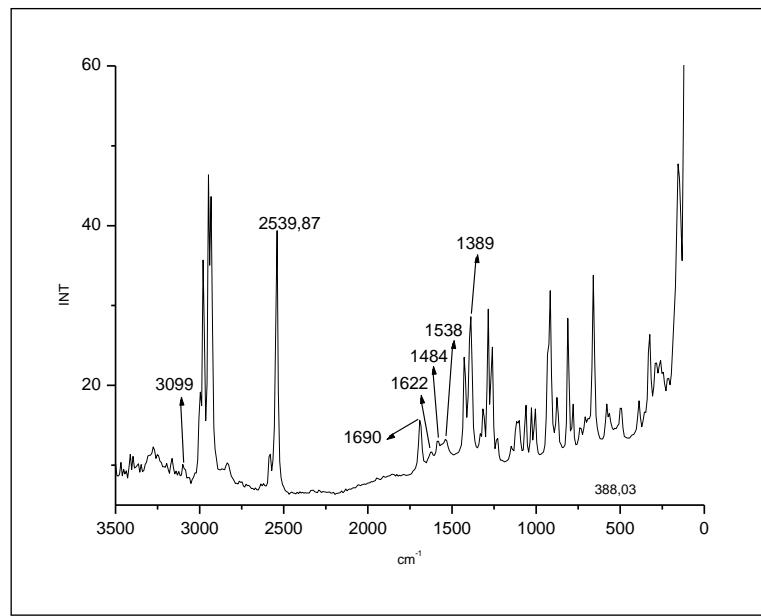


Figura A.120- Raman do ligante Cis-gli na região (3500-100) cm^{-1} .

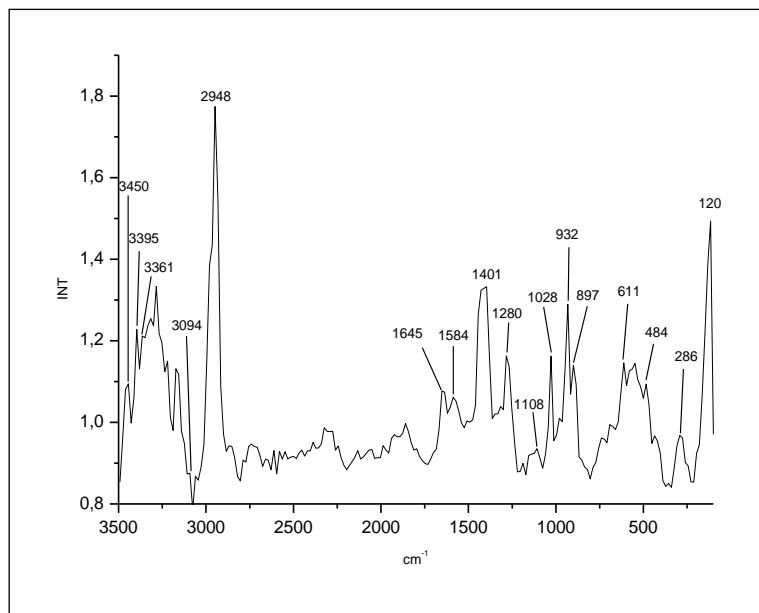
A.3.2**Complexos de Zinco**

Figura A.121- Raman do complexo Zn(Gli-gli) na região (3500-100) cm^{-1} .

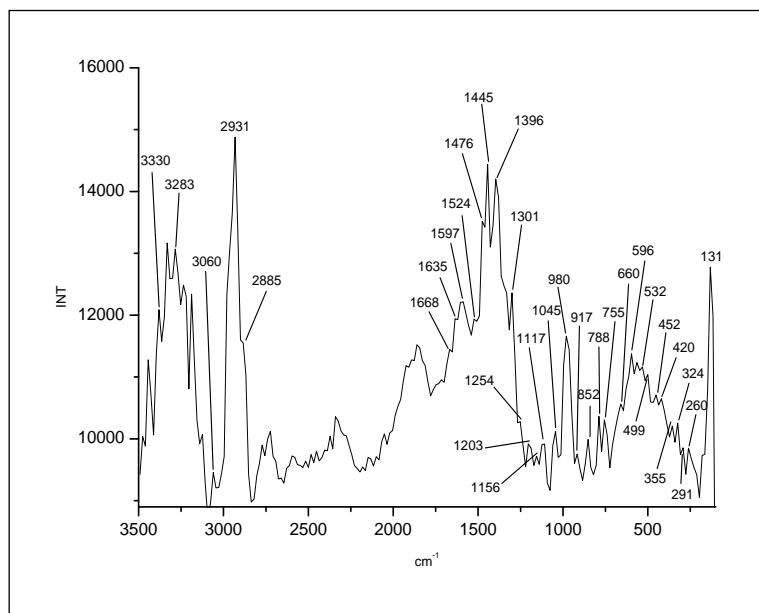


Figura A.122- Raman do complexo Zn(Gli-val) na região (3500-100) cm^{-1} .

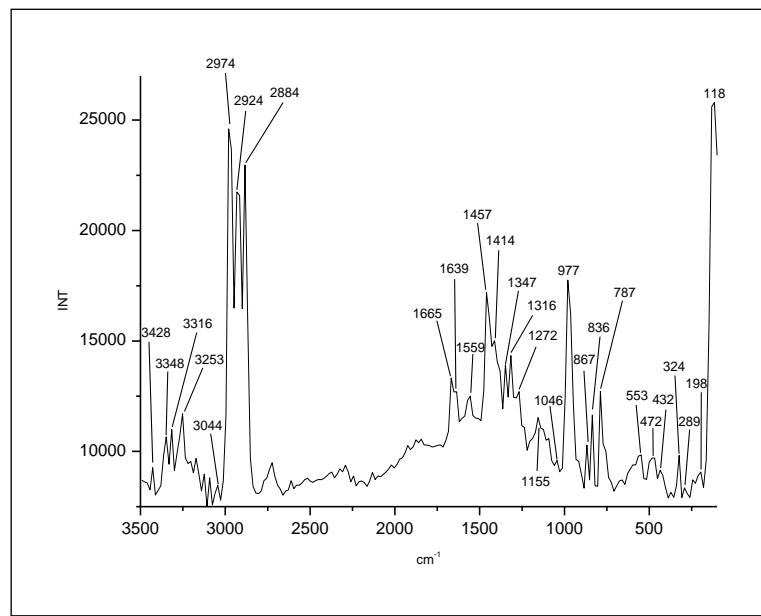


Figura A.123- Raman do complexo $\text{Zn}(\text{Gli-val})_2$ na região (3500-100) cm^{-1} .

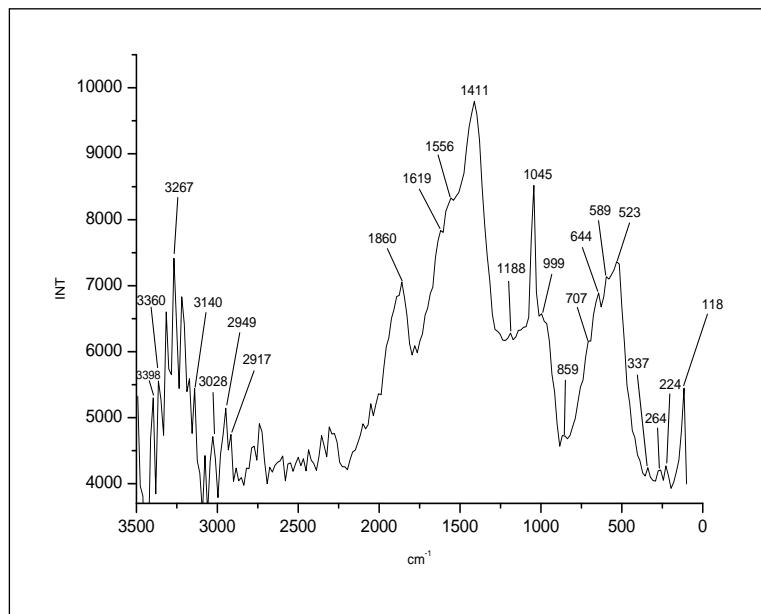


Figura A.124- Raman do complexo $\text{Zn}(\text{Cis-gli})$ na região (3500-100) cm^{-1} .

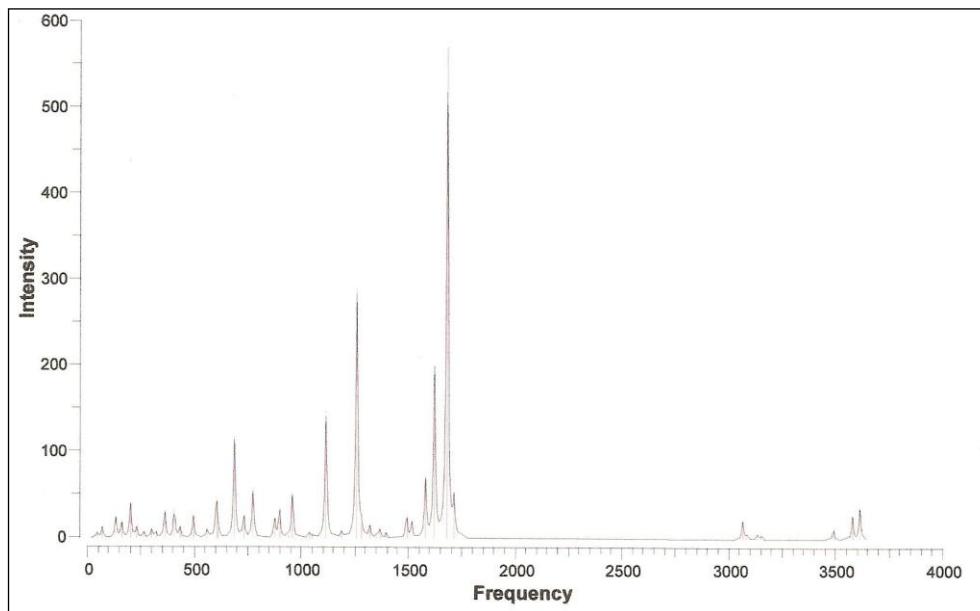
A.4**Espectros de infravermelho teórico dos complexos de zinco**

Figura A.125- IV teórico do complexo Zn(Gli-gli) na região (4000-0) cm^{-1} .

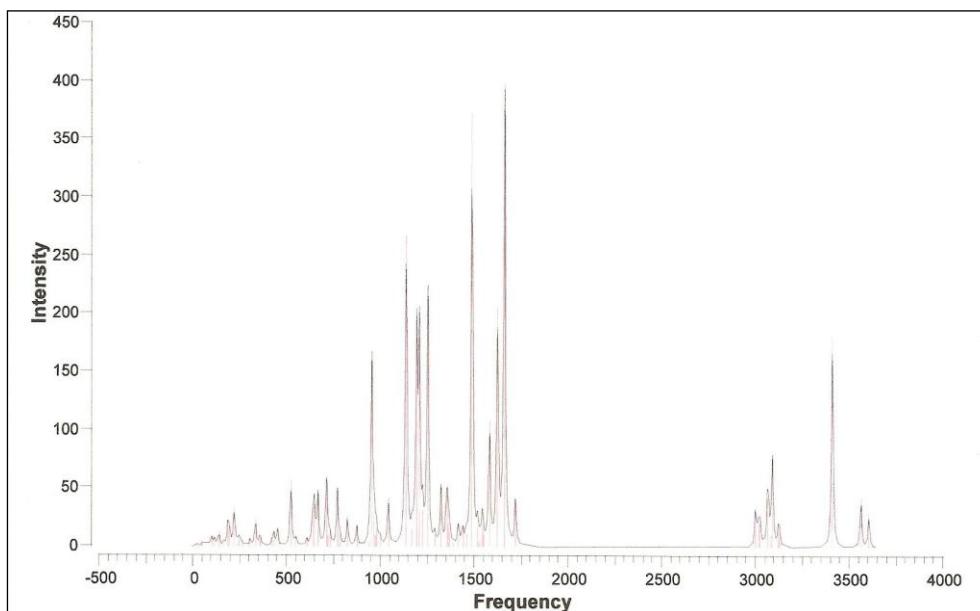


Figura A.126- IV teórico do complexo Zn(Gli-val) na região (4000-0) cm^{-1} .

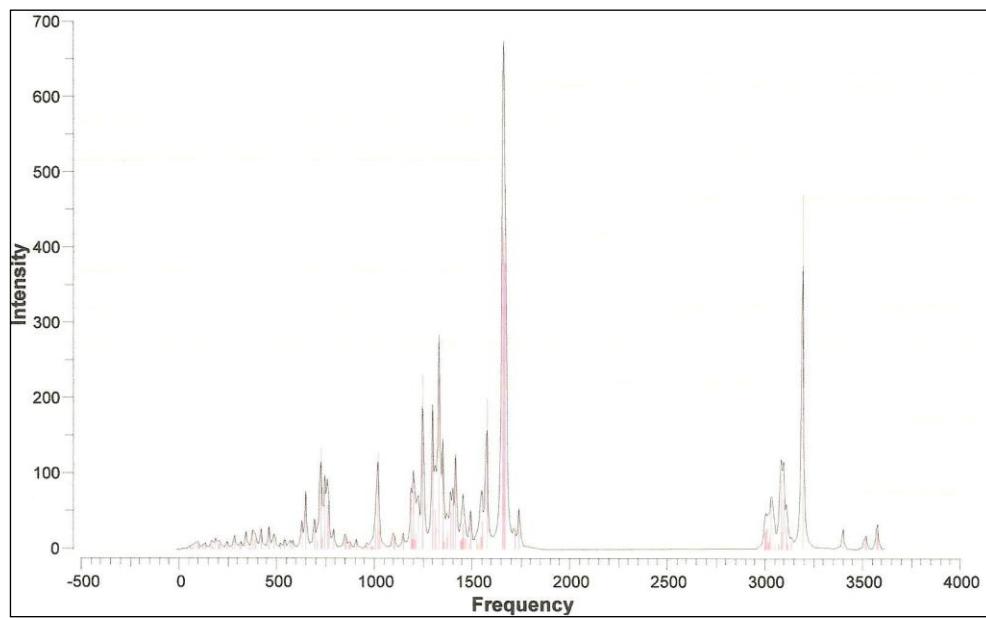


Figura A 127- IV teórico do complexo Zn(Gli-val)₂ na região (4000-0) cm⁻¹.

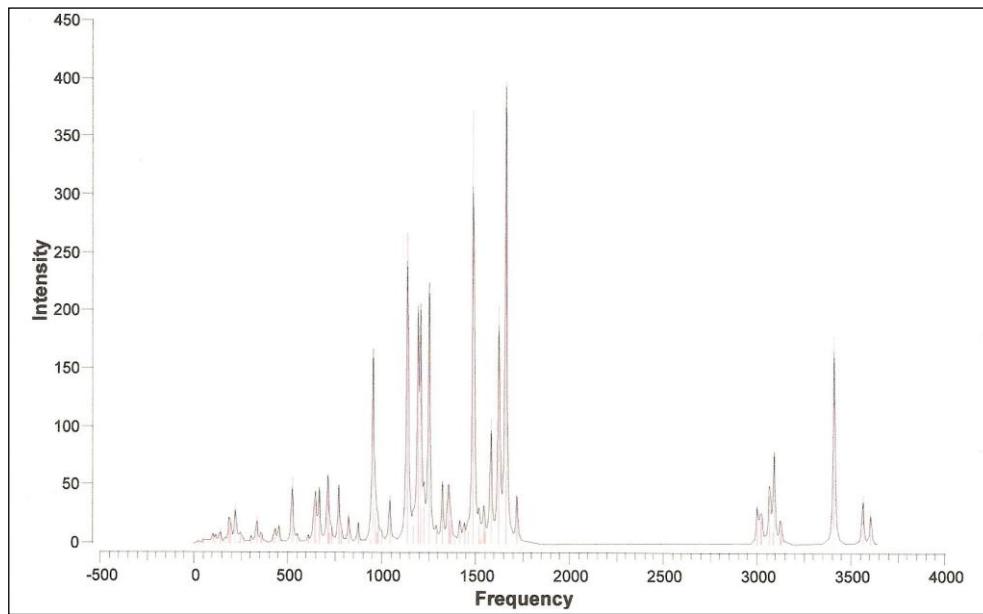


Figura A.128- IV teórico do complexo Zn(Cis-gli) na região (4000-0) cm⁻¹.

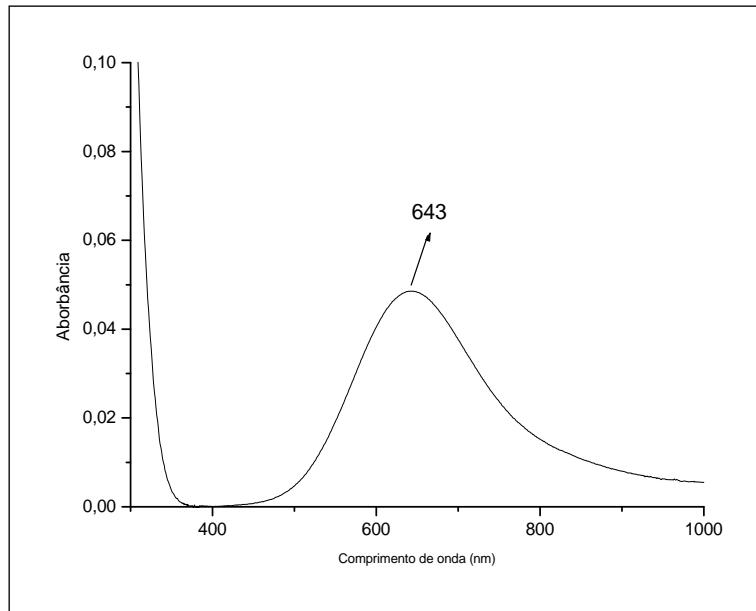
A.5**Ultravioleta-Visível dos complexos de cobre**

Figura A.129- Espectro eletrônico do complexo Cu(Gli-gli) em solução aquosa
 10^{-3} mol.L⁻¹.

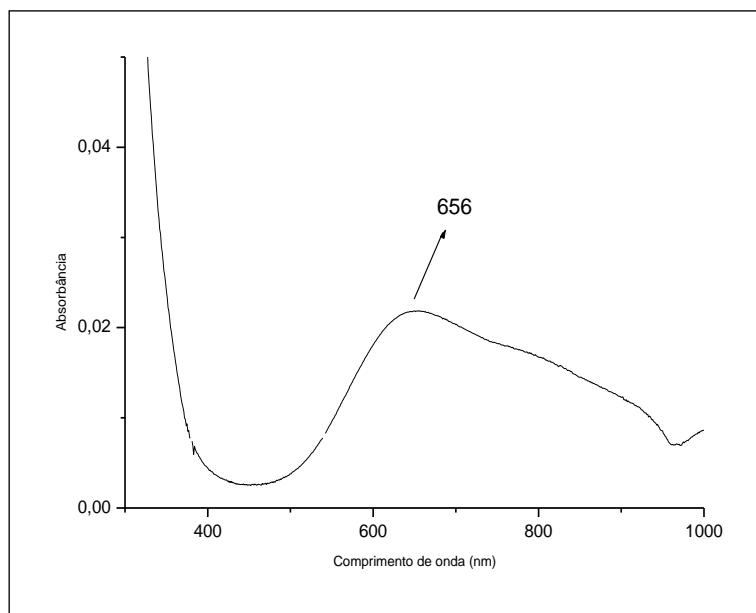


Figura A.130- Espectro eletrônico do complexo Cu(Met-met) em solução aquosa
 10^{-3} mol.L⁻¹.

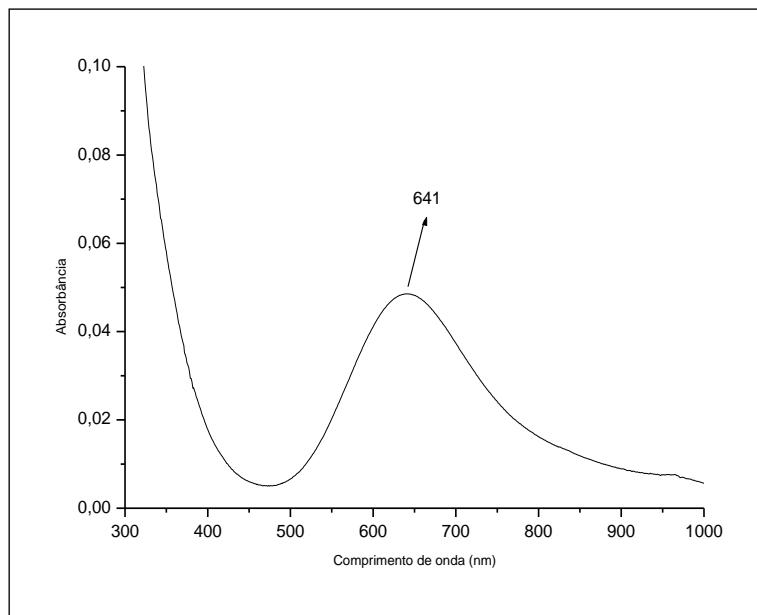


Figura A.131- Espectro eletrônico do complexo Cu(Met-gli) em solução aquosa
 10^{-3} mol.L⁻¹.

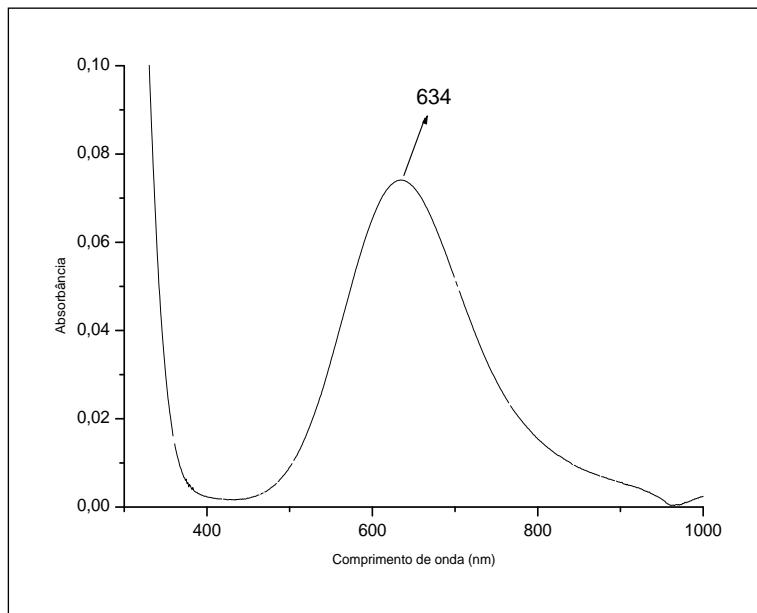


Figura A.132- Espectro eletrônico do complexo Cu(Gli-val)₂ em solução aquosa
 10^{-3} mol.L⁻¹.

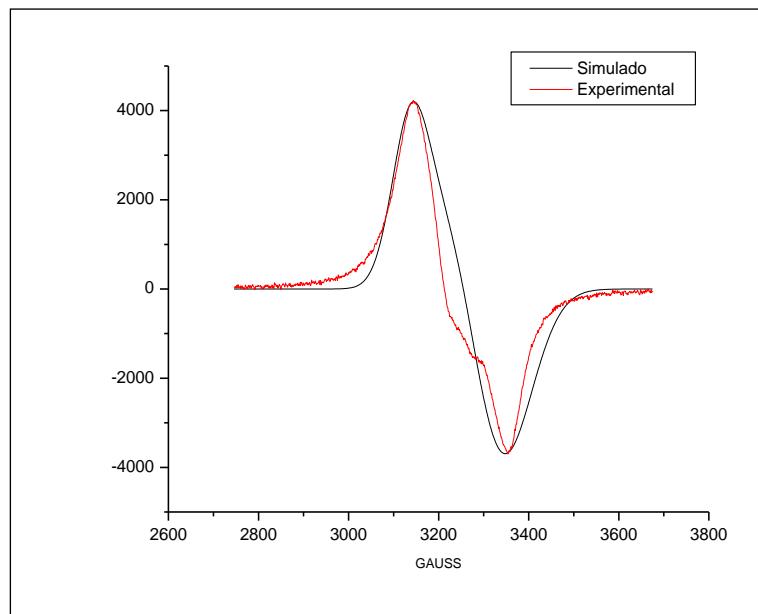
A.6**Ressonância Paramagnética Eletrônica dos complexos de cobre**

Figura A.133- RPE do complexo Cu(Gli-gli) no estado sólido.

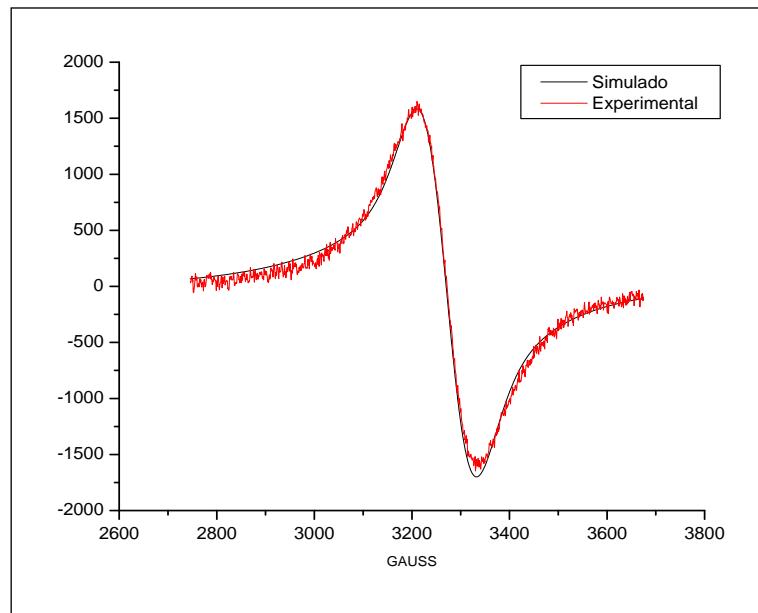


Figura A.134- RPE do complexo Cu(Met-met) no estado sólido.

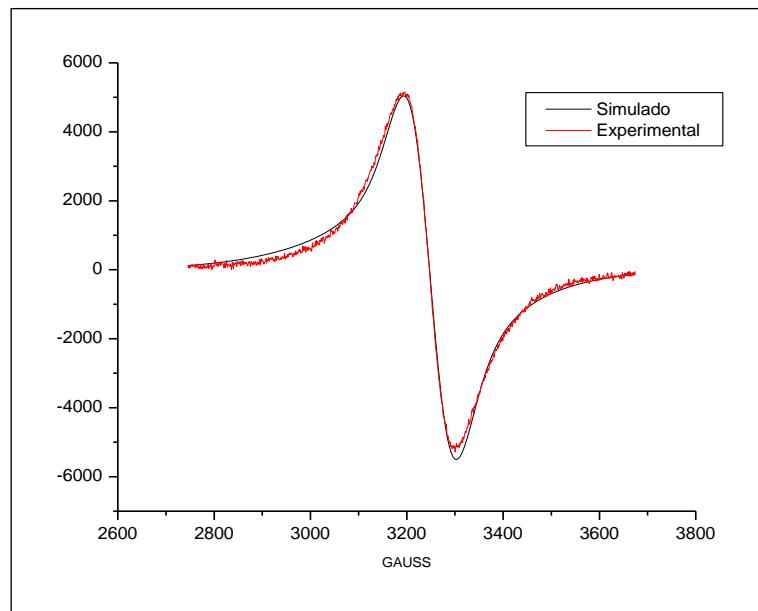


Figura A.135- RPE do complexo Cu(Met-gli) no estado sólido.

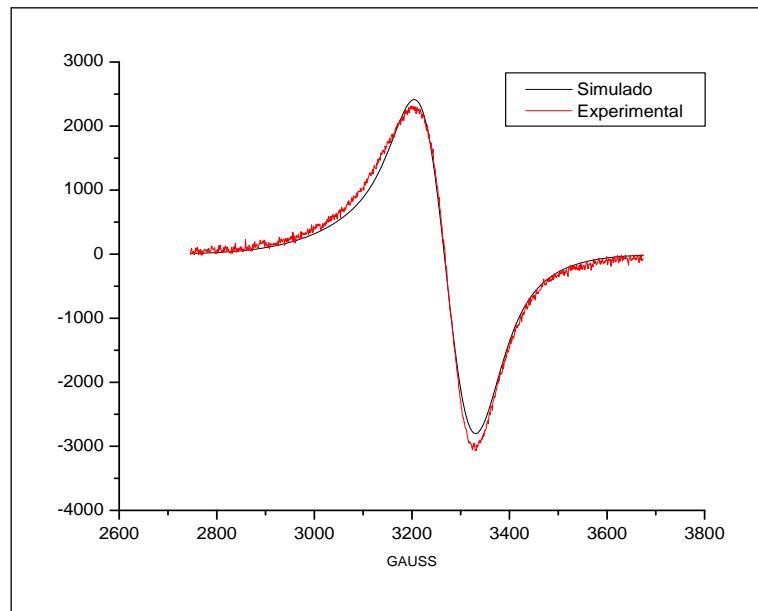


Figura A.132- UV do complexo Cu(Gli-val)₂ no estado sólido.