

# DIFRAÇÃO DE RAIOS-X QUARTZO



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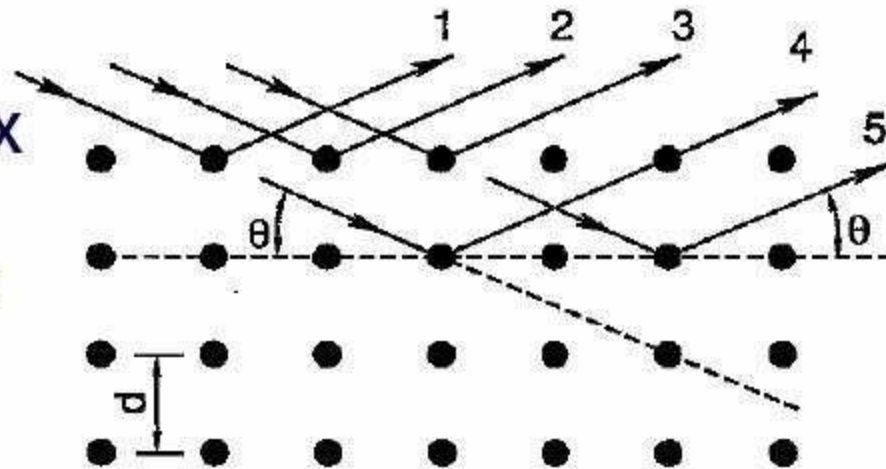
# OBJETIVO

- **Caracterizar/Identificar amostras de quartzo por Difração de Raios-X**

# DIFRAÇÃO DE RAIOS-X E LEI DE BRAGG

## CONDIÇÕES PARA A DIFRAÇÃO DE RAIOS X

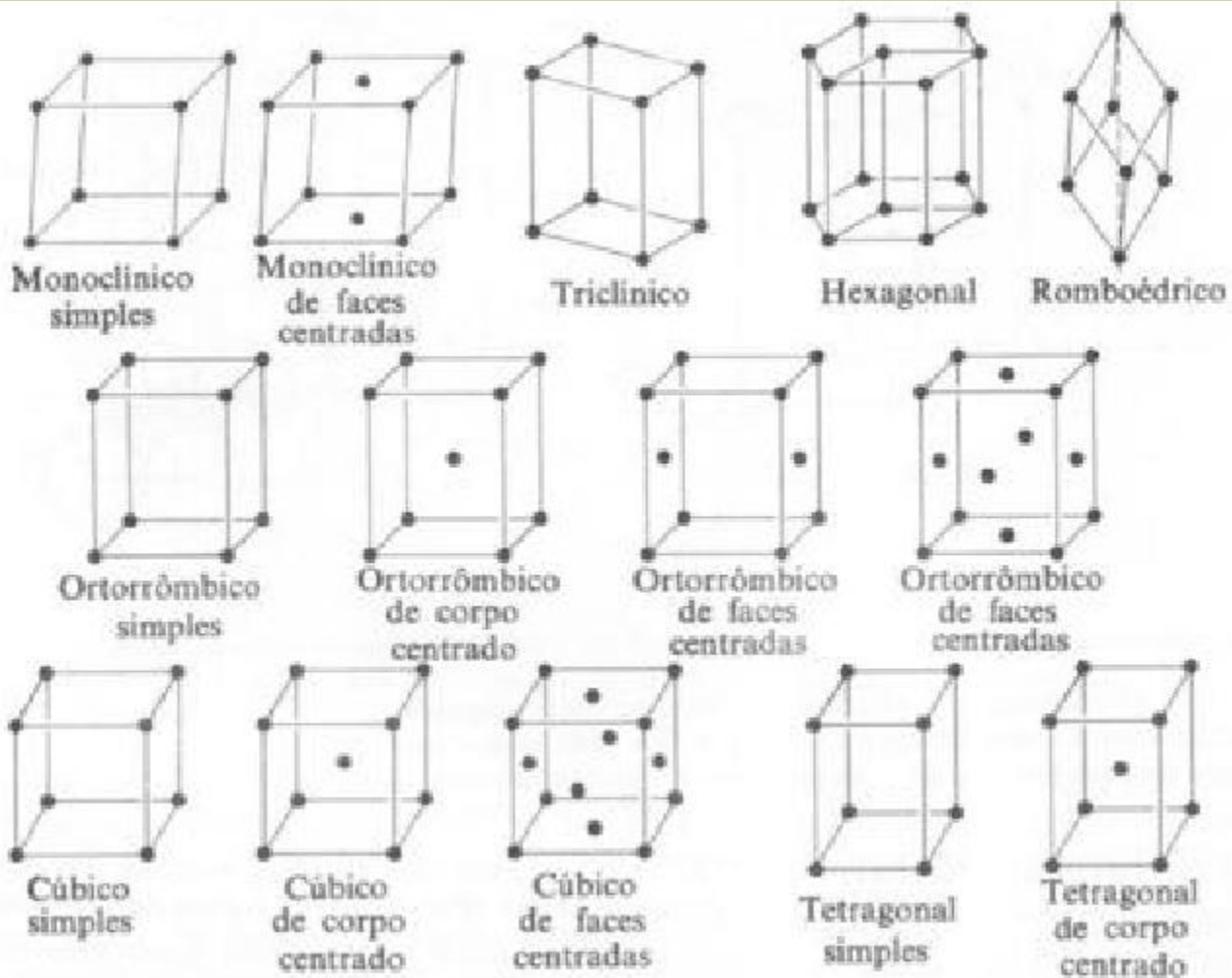
A difração de raios X ocorre de acordo com a lei de Bragg



$$n \lambda = 2 d \text{ sen } \theta$$

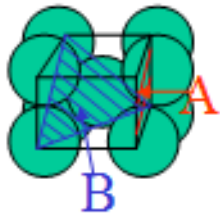
$\theta$ : ângulo entre o feixe incidente e planos do cristal,  
 $d$ : distância interplanar entre os planos de átomos e  
 $n$ : ordem de difração.

# ESTRUTURAS CRISTALINAS



# O QUE FOI FEITO ATÉ O MOMENTO

## Plano A e Plano B (bcc)



$$x = 1/2$$

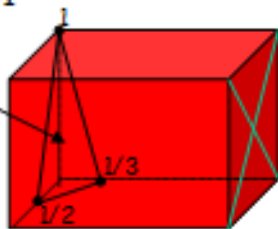
$$y = 1/3$$

$$z = 1$$

$$1/(1/2) \ 1/$$
  

$$(1/3) \ 1/1$$

(231)



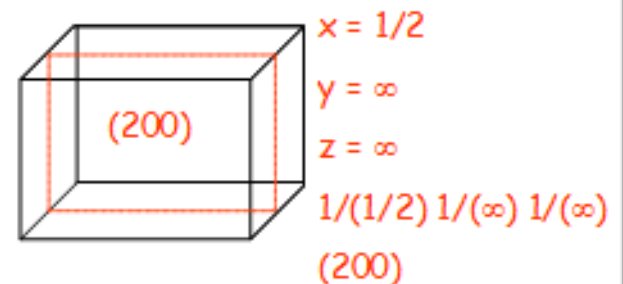
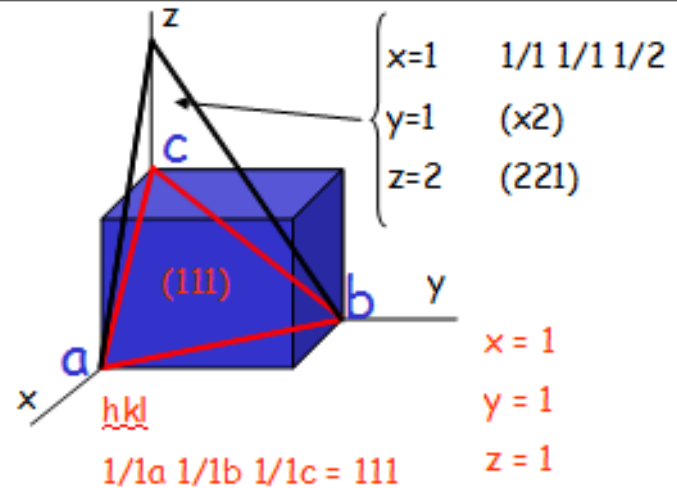
$$x = \infty$$

$$y = 1$$

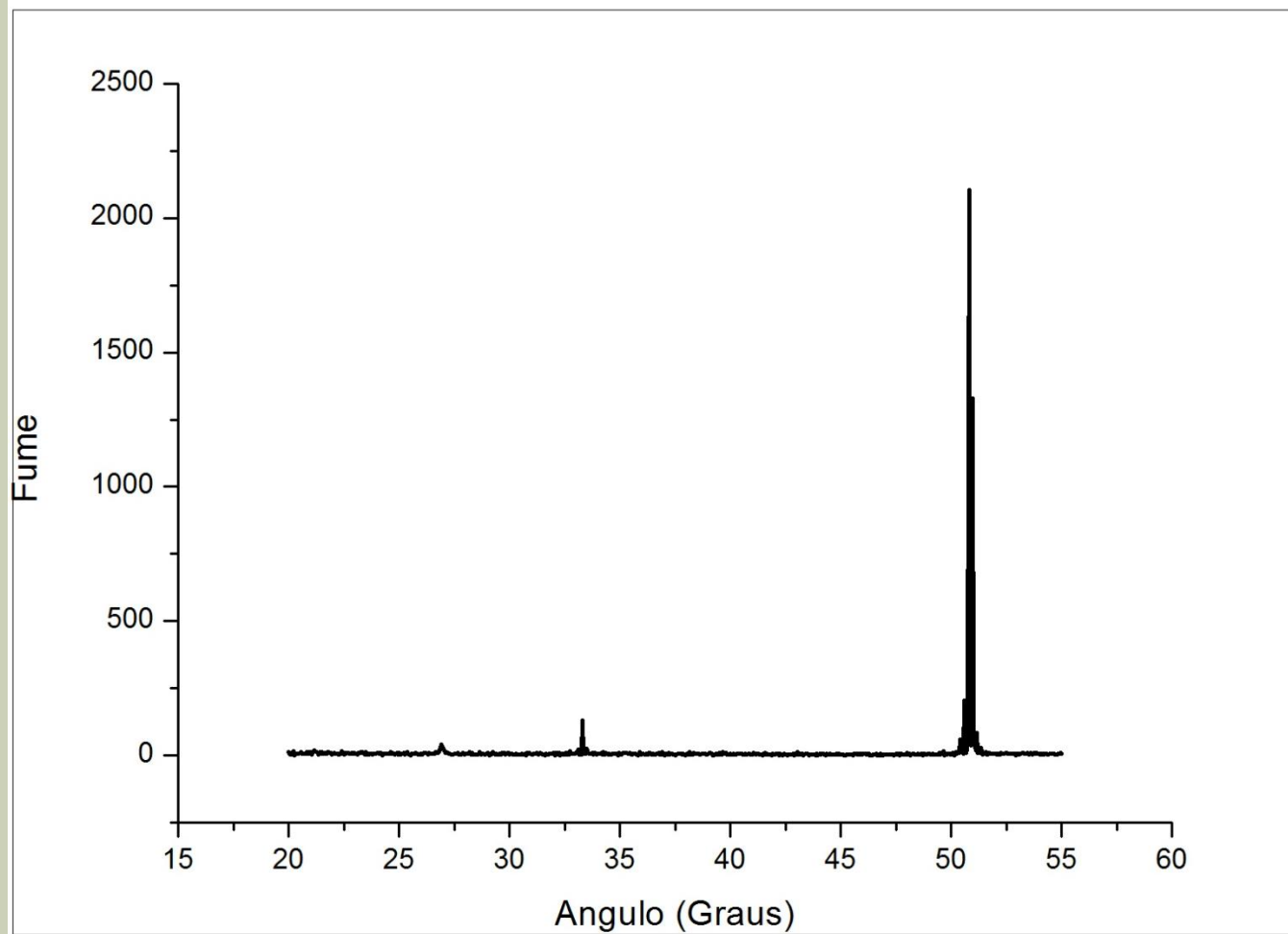
$$z = \infty$$

$$1/(\infty) \ 1/(1) \ 1/(\infty)$$

(010)



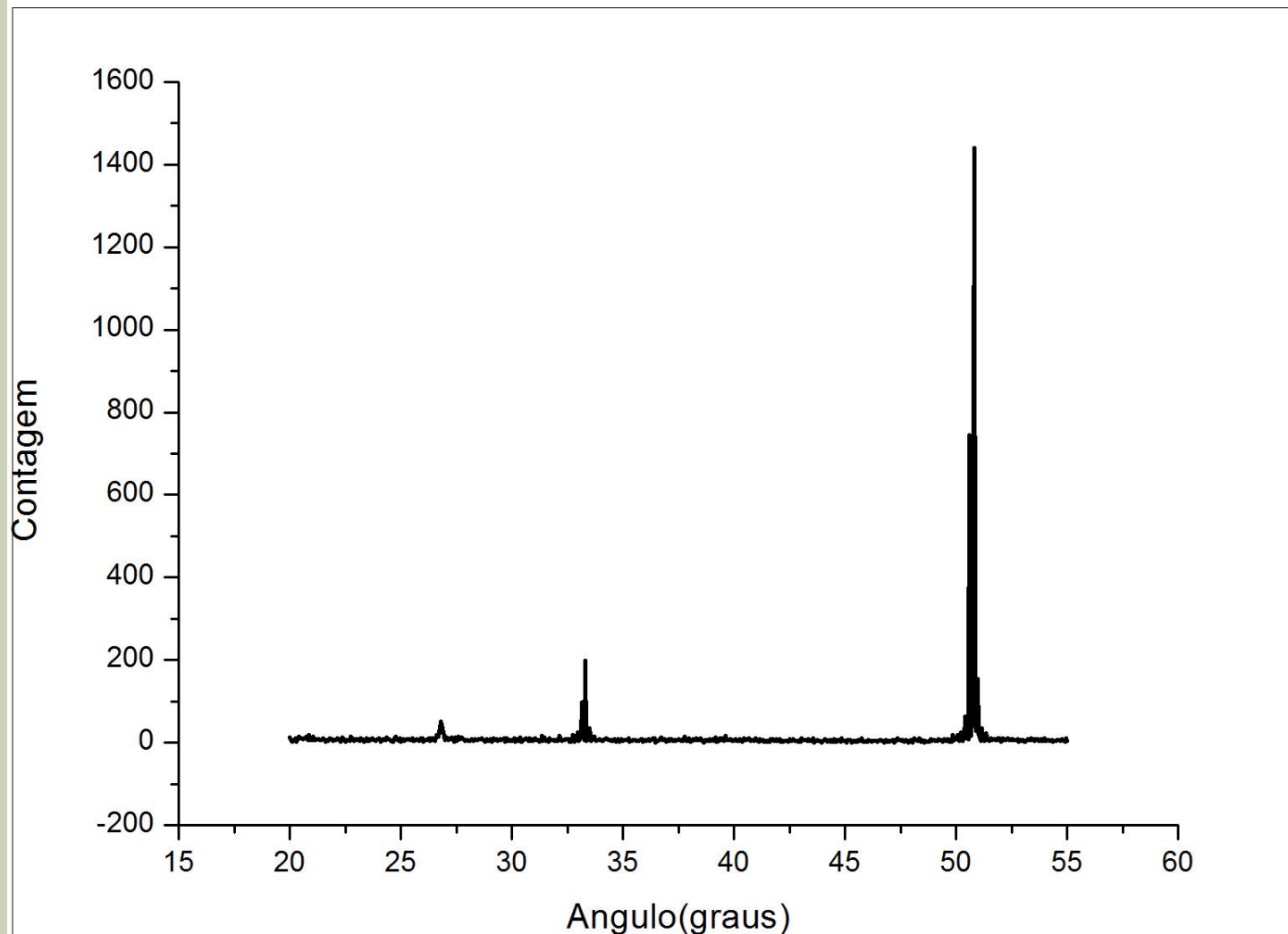
# Resultados



Fumê Mono  
cristalino

Cristalografia

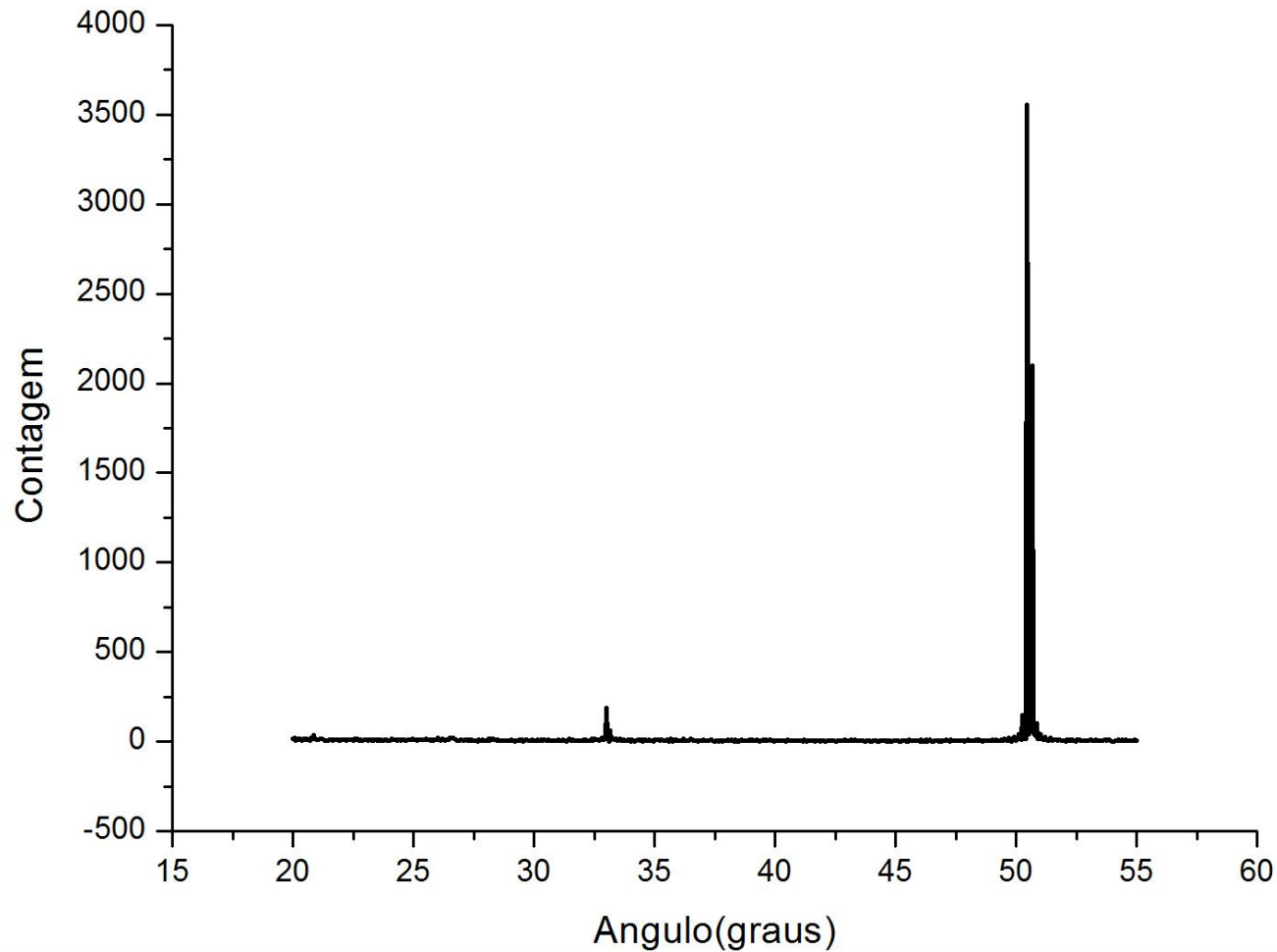
# Resultados



Rosa mono  
cristalino

Cristalografia

# Resultados

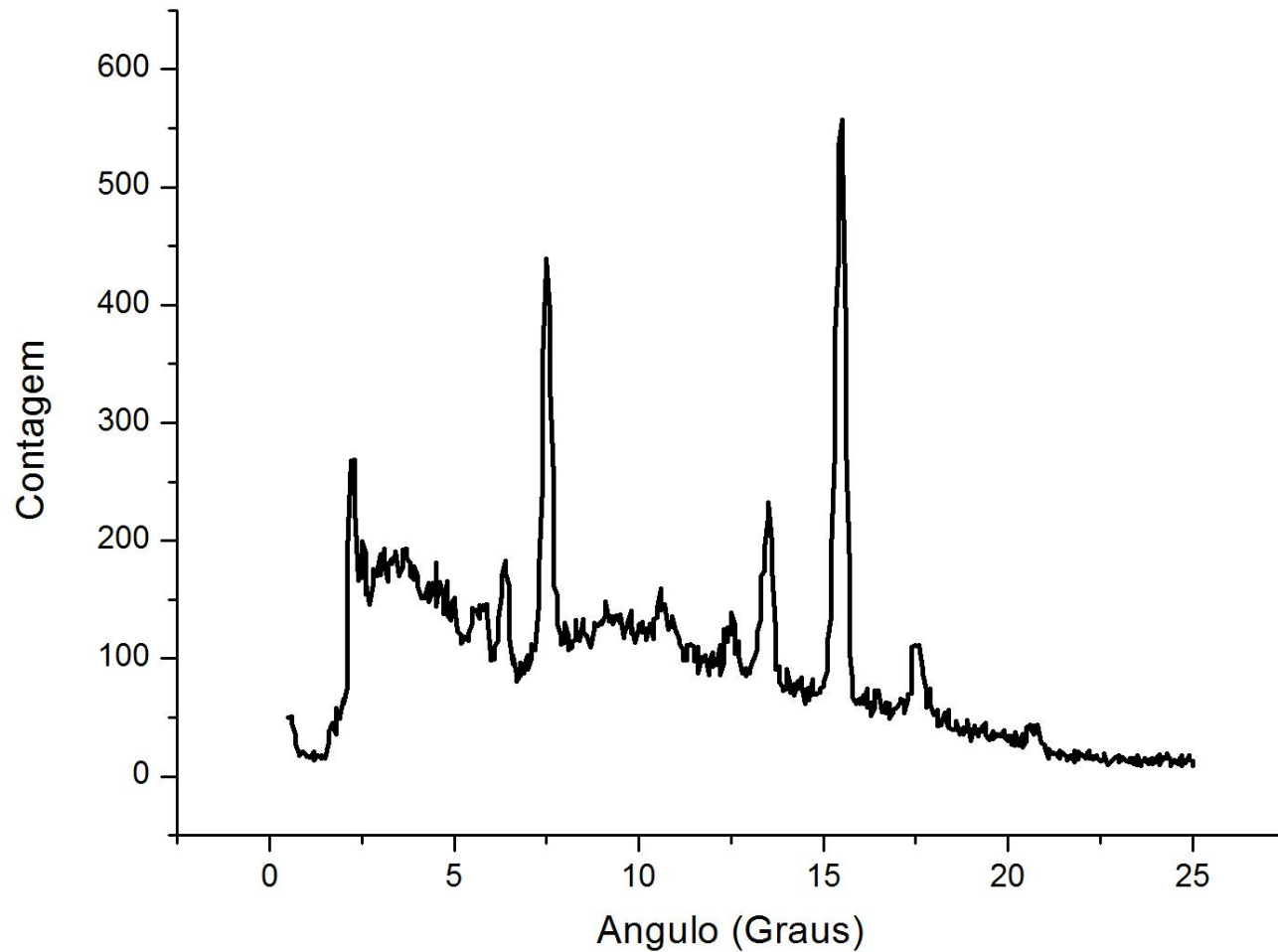


Branco  
mono  
cristalino

Cristalografia



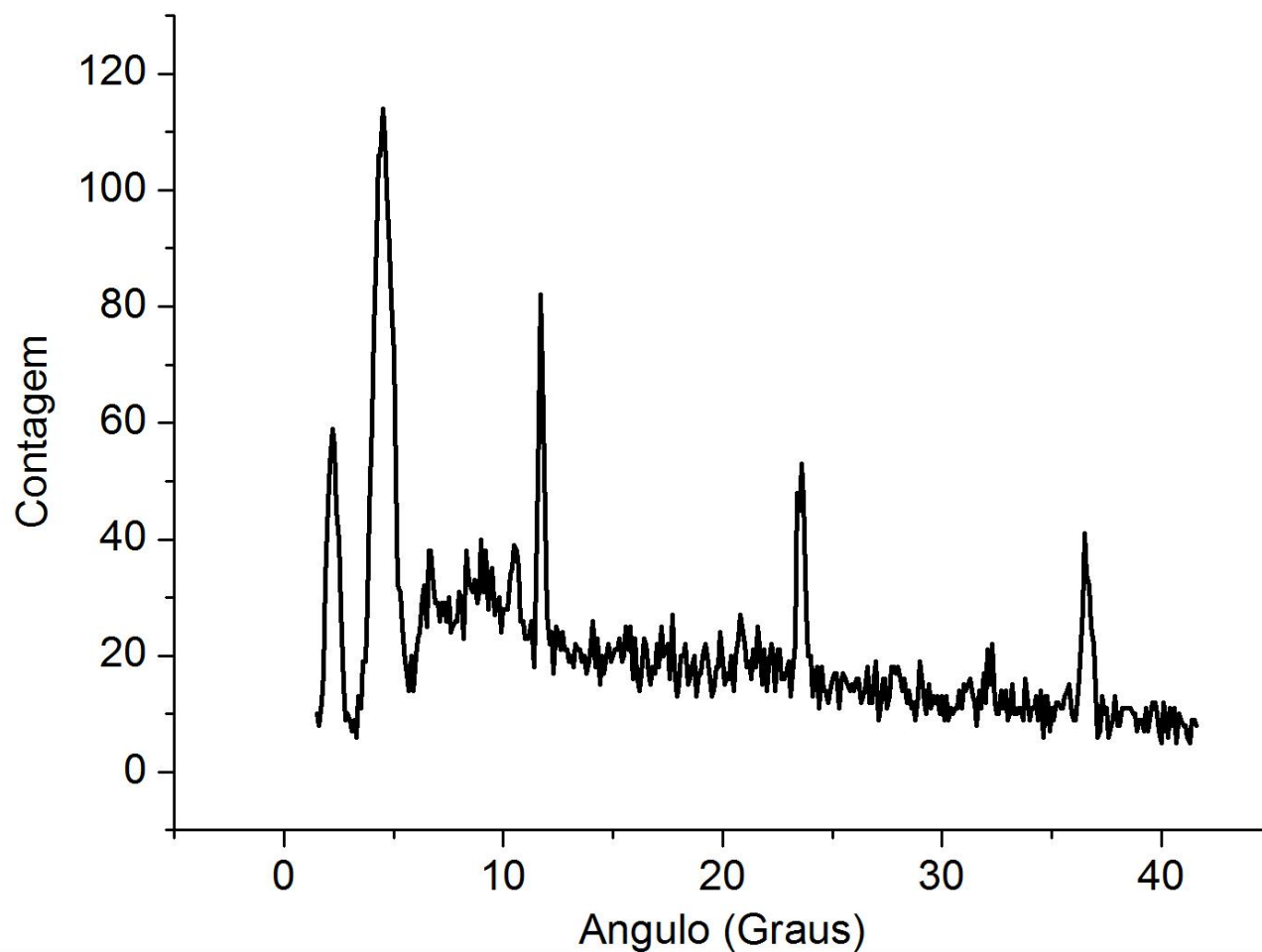
# Resultados



Cristal  
Professora

Laboratório  
Didático

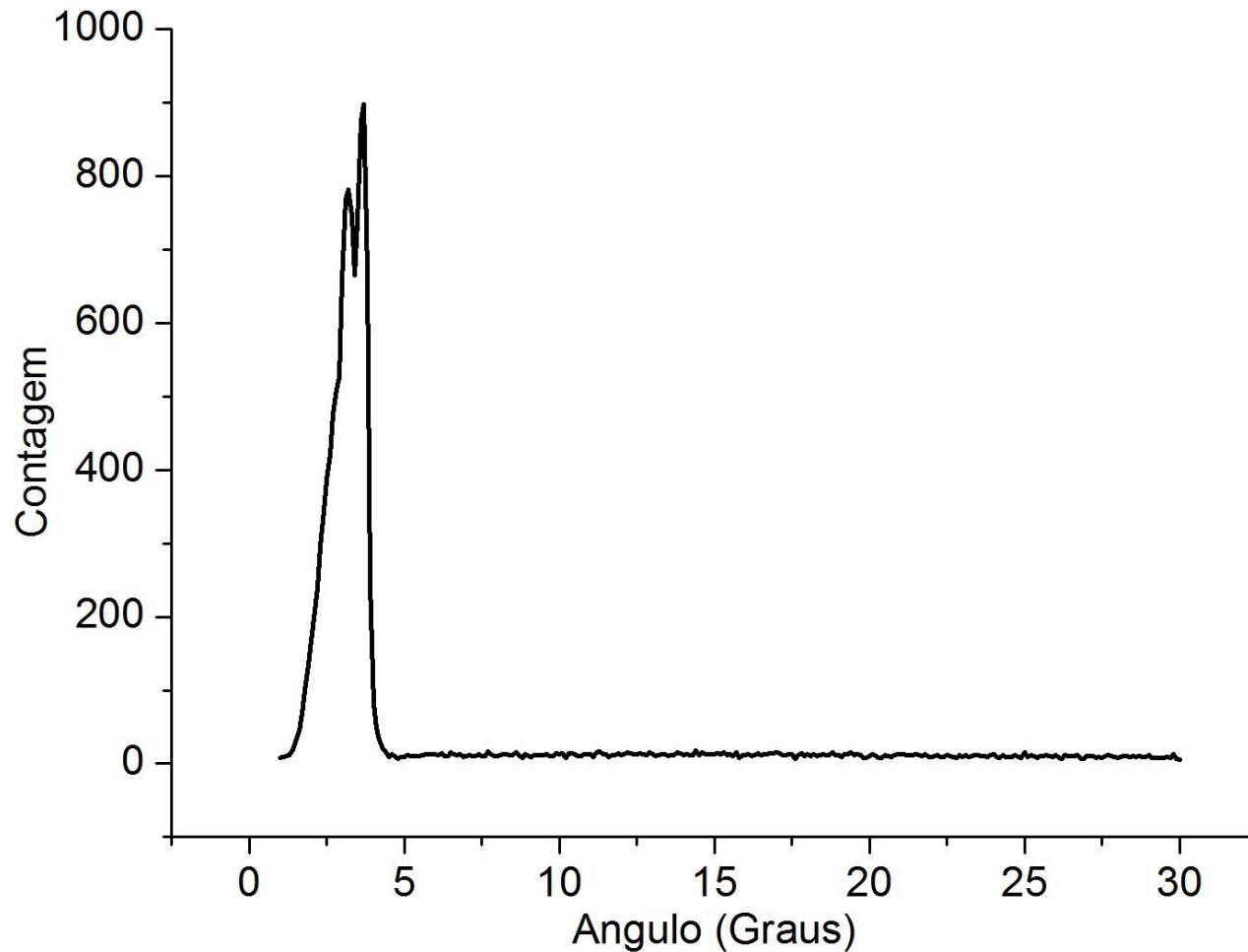
# Resultados



Fumê mono  
cristalino

Laboratório  
Didático

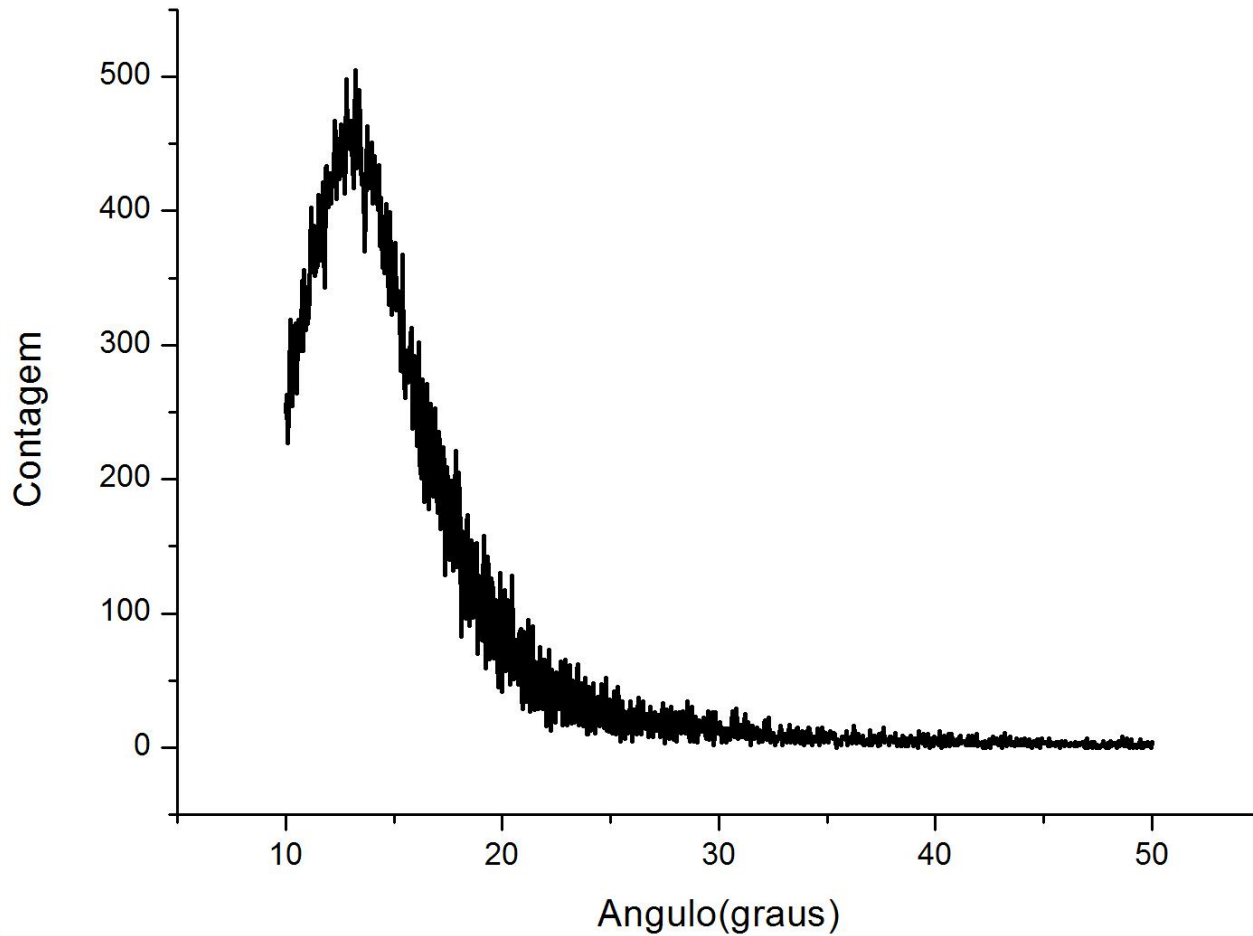
# Resultados



Branco  
mono  
cristalino

Laboratório  
Didático

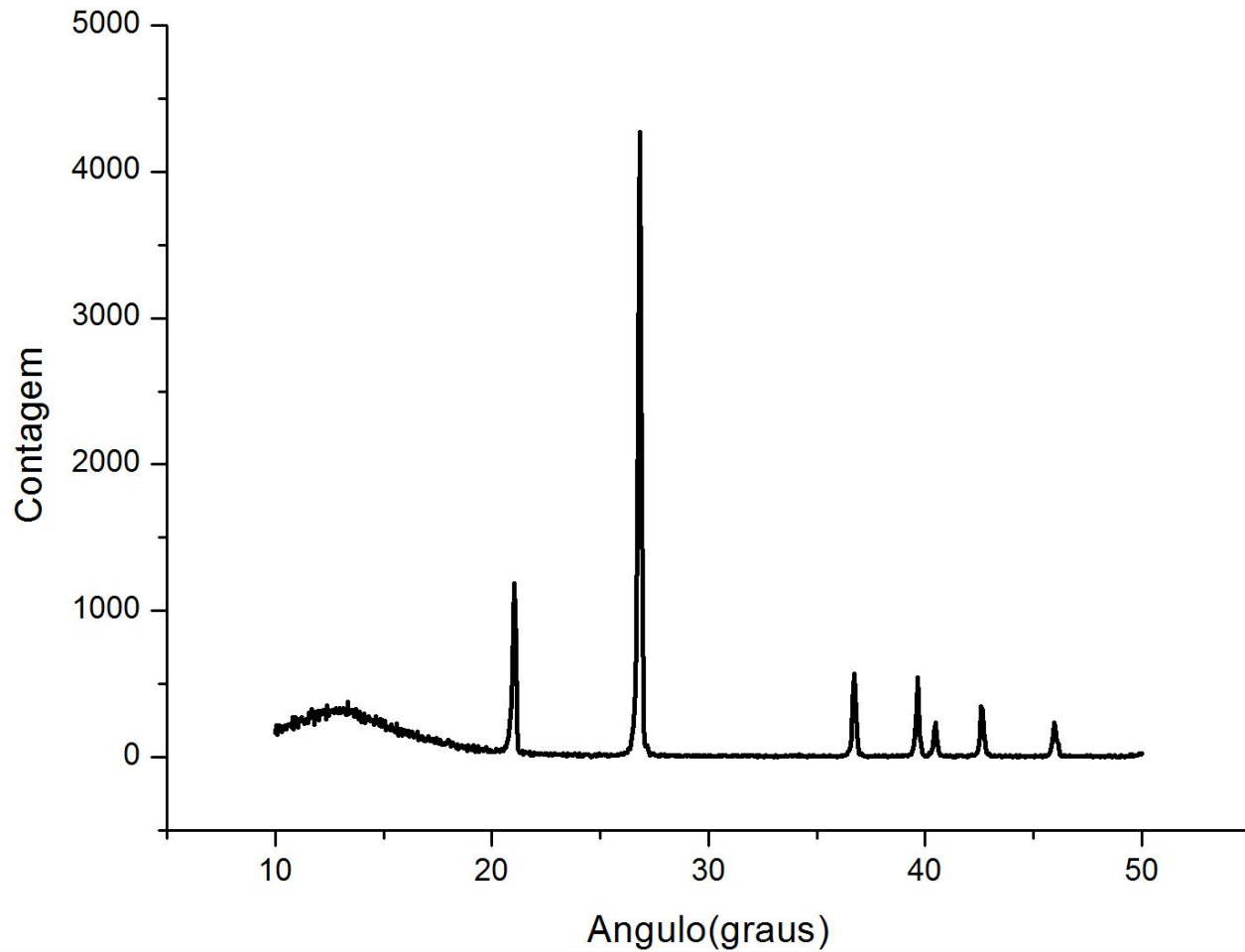
# Resultados



Suporte

Cristalografia

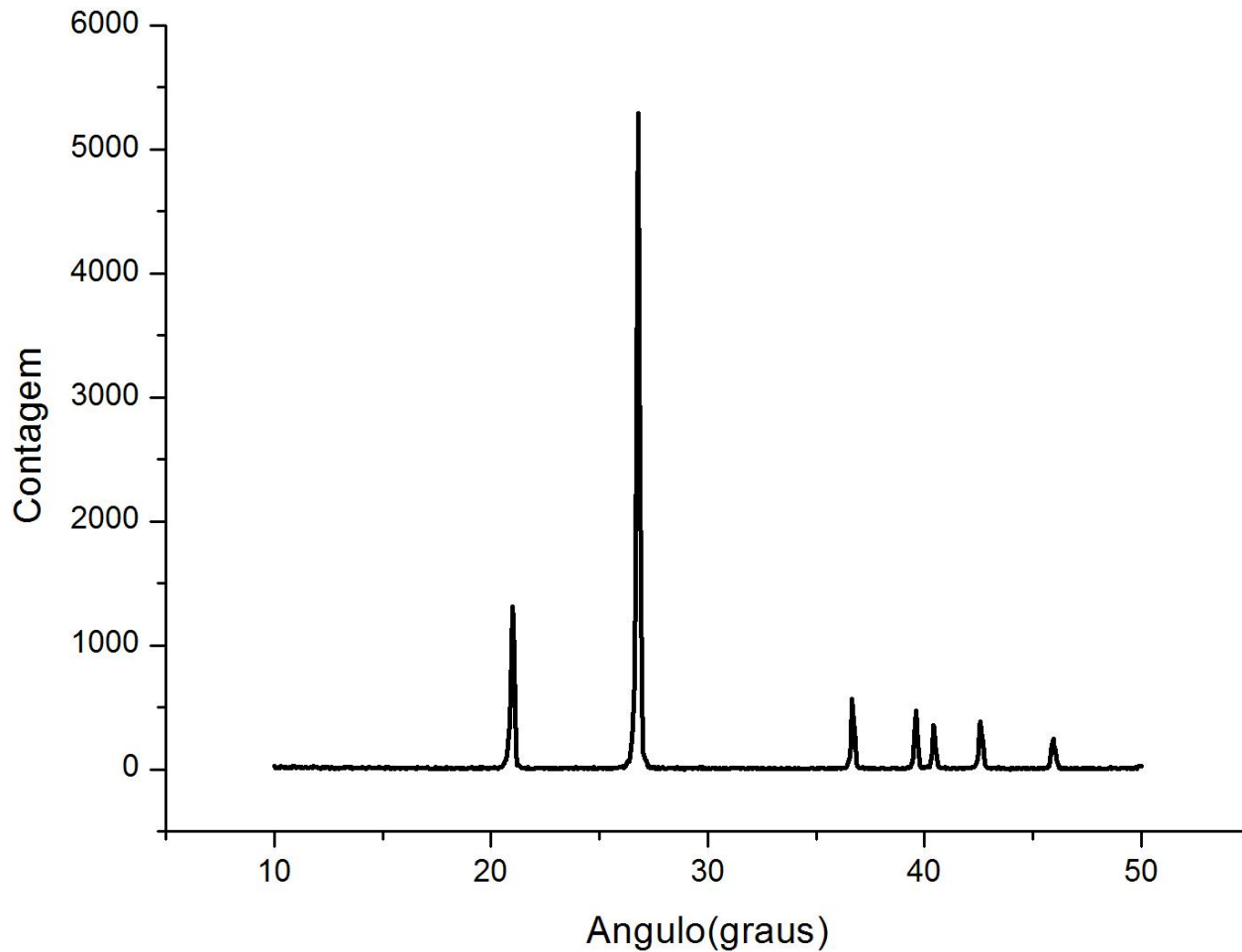
# Resultados



Fumê com  
Suporte

Cristalografia

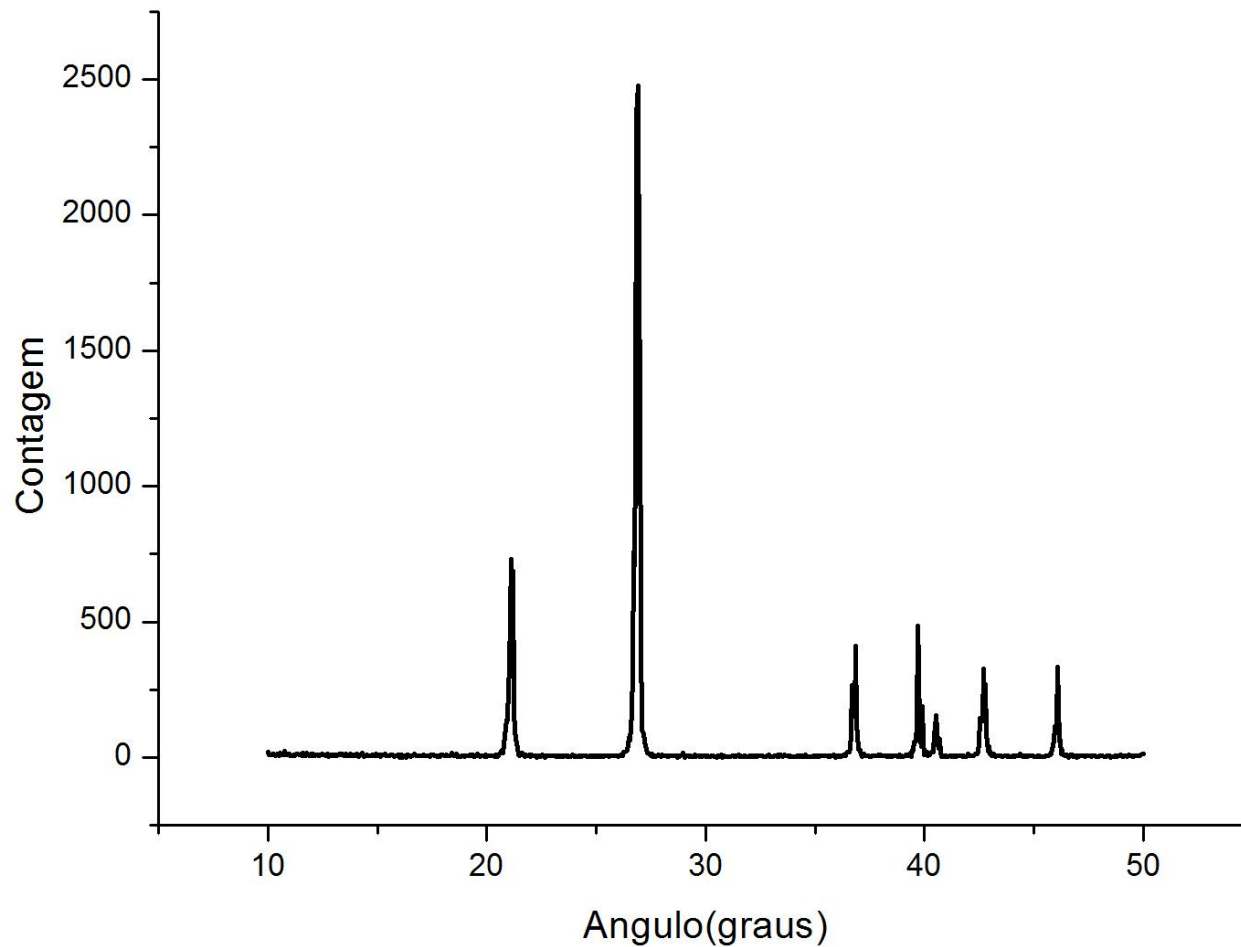
# Resultados



Fumê

Cristalografia

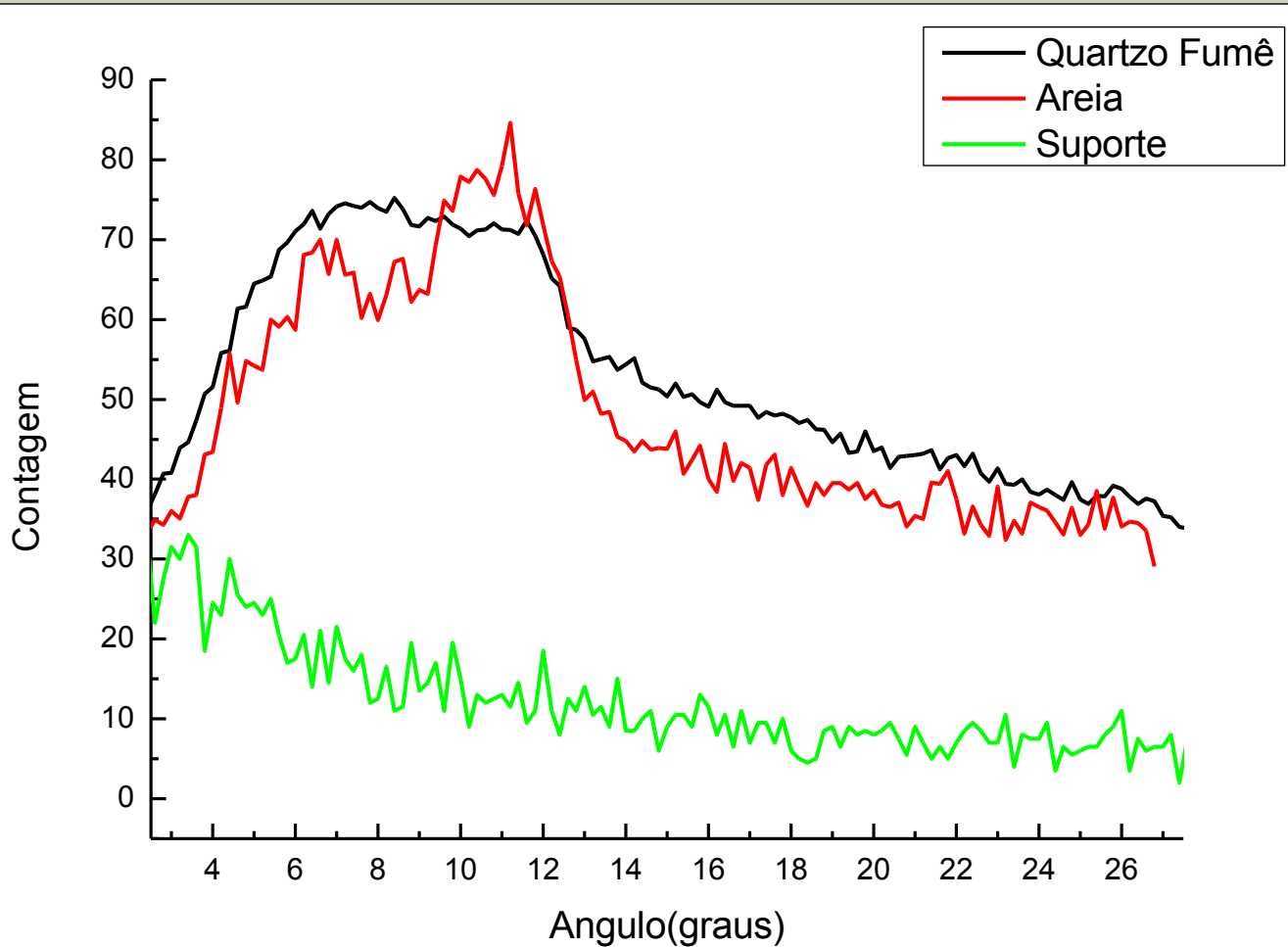
# Resultados



Areia do  
Jalapão

Cristalografia

# Resultados



Alvo de Molibdênio		
$\theta$ (°)	Intensidade	Plano (h k l)
4,80	16	(1 0 0)
6,11	100	(1 0 1)
8,32	9	(1 1 0)
8,97	8	(1 0 2)
9,15	4	(1 1 1)
9,62	6	(2 0 0)
10,35	4	(2 0 1)
11,39	1	(0 0 3)

Laboratório  
Didático