



Laboratório de Ensaio acreditado  
pela Cgcre/Inmetro de acordo com  
a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 1 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

### Análise em amostras de solo

Cliente : Fundação Bio-Rio / Petrobras – UN-BS  
Endereço : Av. Carlos Chagas Filho, nº 791  
Cidade Universitária - Rio de Janeiro - RJ  
Localização do Projeto : Bacia de Santos  
Data da Coleta : 29, 30 e 31.10, 01 e 02/11/2010  
Entrega das amostras : 04/11/2010  
Início dos ensaios/extração : 05/11/2010  
Término dos ensaios : 22/02/2011

INNOLAB do Brasil Ltda.  
Rua Sacadura Cabral - 236  
Saúde - Rio de Janeiro - RJ  
Cep. 20221-161  
CNPJ. 04.183.043/0001-00  
Tel. (21) 3509-1750  
Fax (21) 2233-4621

Projeto : PAI-Projeto de Avaliação de Impactos da Bacia de Santos  
Gerente do Projeto : Cristina Falcão

Parâmetro	RC-BS_1_R1 (0-2cm) (µg/kg)	RC-BS_1_R2 (0-2cm) (µg/kg)	RC-BS_1_R3 (0-2cm) (µg/kg)	RC-BS_2_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	<10	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5

## Boletim de Ensaio

Pág. 2 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_1_R1 (0-2cm) (µg/kg)	RC-BS_1_R2 (0-2cm) (µg/kg)	RC-BS_1_R3 (0-2cm) (µg/kg)	RC-BS_2_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	11	<10	12	<10	10	5
n-C30	<10	<10	11	nd	10	5
n-C31	14	<10	11	<10	10	5
n-C32	15	<10	13	<10	10	5
n-C33	<10	<10	<10	nd	10	5
n-C34	17	<10	12	<10	10	5
n-C35	<10	nd	<10	<10	10	5
n-C36	nd	nd	nd	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	nd	nd	<10	<10	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 3 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_2_R2 (0-2cm) (µg/kg)	RC-BS_2_R3 (0-2cm) (µg/kg)	RC-BS_3_R1 (0-2cm) (µg/kg)	RC-BS_3_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	<10	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	<10	nd	10	5



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## Boletim de Ensaio

Pág. 4 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_2_R2 (0-2cm) (µg/kg)	RC-BS_2_R3 (0-2cm) (µg/kg)	RC-BS_3_R1 (0-2cm) (µg/kg)	RC-BS_3_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	<10	<10	<10	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	<10	<10	<10	<10	10	5
n-C32	<10	<10	<10	<10	10	5
n-C33	nd	<10	<10	<10	10	5
n-C34	<10	13	<10	12	10	5
n-C35	<10	<10	<10	nd	10	5
n-C36	nd	nd	nd	nd	10	5
n-C37	nd	nd	nd	nd	10	5
n-C38	<10	nd	<10	<10	10	5
n-C39	nd	nd	nd	nd	10	5
n-C40	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 5 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_3_R3 (0-2cm) (µg/kg)	RC-BS_4_R1 (0-2cm) (µg/kg)	RC-BS_4_R2 (0-2cm) (µg/kg)	RC-BS_4_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	nd	<10	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 6 de 37

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Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_3_R3 (0-2cm) (µg/kg)	RC-BS_4_R1 (0-2cm) (µg/kg)	RC-BS_4_R2 (0-2cm) (µg/kg)	RC-BS_4_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	<10	<10	<10	10	5
n-C30	nd	nd	nd	nd	10	5
n-C31	<10	<10	nd	nd	10	5
n-C32	<10	<10	<10	<10	10	5
n-C33	<10	nd	nd	nd	10	5
n-C34	<10	<10	<10	10	10	5
n-C35	nd	nd	<10	nd	10	5
n-C36	<10	nd	nd	nd	10	5
n-C37	<10	nd	nd	nd	10	5
n-C38	11	nd	nd	<10	10	5
n-C39	nd	nd	nd	<10	10	5
n-C40	nd	nd	nd	<10	10	5



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a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 7 de 37

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Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_5_R1 (0-2cm) (µg/kg)	RC-BS_5_R2 (0-2cm) (µg/kg)	RC-BS_5_R3 (0-2cm) (µg/kg)	RC-BS_6_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	<10	nd	<10	<10	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 8 de 37

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_5_R1 (0-2cm) (µg/kg)	RC-BS_5_R2 (0-2cm) (µg/kg)	RC-BS_5_R3 (0-2cm) (µg/kg)	RC-BS_6_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	<10	<10	<10	10	5
n-C30	<10	nd	nd	13	10	5
n-C31	<10	<10	<10	<10	10	5
n-C32	<10	10	11	12	10	5
n-C33	<10	nd	<10	<10	10	5
n-C34	<10	10	11	13	10	5
n-C35	<10	<10	nd	10	10	5
n-C36	nd	<10	<10	<10	10	5
n-C37	nd	<10	nd	nd	10	5
n-C38	nd	<10	nd	nd	10	5
n-C39	nd	<10	nd	<10	10	5
n-C40	nd	<10	nd	nd	10	5





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## Boletim de Ensaio

Pág. 9 de 37

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_6_R2 (0-2cm) (µg/kg)	RC-BS_6_R3 (0-2cm) (µg/kg)	RC-BS_7_R1 (0-2cm) (µg/kg)	RC-BS_7_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	12	nd	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	<10	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 10 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_6_R2 (0-2cm) (µg/kg)	RC-BS_6_R3 (0-2cm) (µg/kg)	RC-BS_7_R1 (0-2cm) (µg/kg)	RC-BS_7_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	<10	<10	<10	10	5
n-C30	<10	<10	<10	nd	10	5
n-C31	<10	<10	<10	<10	10	5
n-C32	<10	11	11	<10	10	5
n-C33	<10	<10	<10	<10	10	5
n-C34	11	<10	<10	<10	10	5
n-C35	<10	<10	11	<10	10	5
n-C36	<10	nd	nd	nd	10	5
n-C37	nd	<10	nd	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	<10	10	<10	<10	10	5
n-C40	nd	20	nd	<10	10	5



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a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 11 de 37

Resp. Téc.: **Carina Casal**

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_7_R3 (0-2cm) (µg/kg)	RC-BS_8_R1 (0-2cm) (µg/kg)	RC-BS_8_R2 (0-2cm) (µg/kg)	RC-BS_8_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	<10	nd	nd	10	5
n-C27	<10	<10	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 12 de 37

Resp. Téc.: **Carina Casal**

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_7_R3 (0-2cm) (µg/kg)	RC-BS_8_R1 (0-2cm) (µg/kg)	RC-BS_8_R2 (0-2cm) (µg/kg)	RC-BS_8_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	12	10	<10	<10	10	5
n-C30	<10	<10	<10	nd	10	5
n-C31	<10	<10	<10	nd	10	5
n-C32	11	<10	<10	<10	10	5
n-C33	<10	<10	<10	<10	10	5
n-C34	11	14	11	11	10	5
n-C35	<10	<10	<10	<10	10	5
n-C36	<10	nd	<10	<10	10	5
n-C37	<10	12	nd	nd	10	5
n-C38	10	19	nd	nd	10	5
n-C39	15	21	13	<10	10	5
n-C40	nd	<10	nd	nd	10	5



Laboratório de Ensaio acreditado  
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a ABNT NBR ISO/IEC 17025.



## Boletim de Ensaio

Pág. 13 de 37

Resp. Téc.: **Carina Casal**

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_9_R1 (0-2cm) (µg/kg)	RC-BS_9_R2 (0-2cm) (µg/kg)	RC-BS_9_R3 (0-2cm) (µg/kg)	RC-BS_10_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	<10	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	nd	nd	nd	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	<10	nd	nd	10	5
n-C27	<10	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 14 de 37

Resp. Téc.: **Carina Casal**

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_9_R1 (0-2cm) (µg/kg)	RC-BS_9_R2 (0-2cm) (µg/kg)	RC-BS_9_R3 (0-2cm) (µg/kg)	RC-BS_10_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	11	nd	<10	10	5
n-C30	<10	<10	nd	nd	10	5
n-C31	<10	<10	nd	nd	10	5
n-C32	<10	11	<10	<10	10	5
n-C33	<10	<10	nd	<10	10	5
n-C34	13	13	<10	<10	10	5
n-C35	<10	<10	<10	<10	10	5
n-C36	<10	<10	nd	<10	10	5
n-C37	<10	<10	<10	nd	10	5
n-C38	nd	nd	<10	nd	10	5
n-C39	<10	<10	11	14	10	5
n-C40	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 15 de 37

Resp. Téc.: **Carina Casal**

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Lab-nº: **10/4048C**

Parâmetro	RC-BS_10_R2 (0-2cm) (µg/kg)	RC-BS_10_R3 (0-2cm) (µg/kg)	RC-BS_11_R1 (0-2cm) (µg/kg)	RC-BS_11_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	23	<10	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	14	nd	nd	nd	10	5
n-C14	17	nd	nd	nd	10	5
n-C15	140	nd	13	<10	10	5
n-C16	157	<10	nd	nd	10	5
n-C17	147	nd	nd	nd	10	5
Pristano	161	nd	nd	nd	10	5
n-C18	152	23	nd	nd	10	5
Fitano	126	nd	nd	nd	10	5
n-C19	17	nd	nd	nd	10	5
n-C20	52	35	<10	nd	10	5
n-C21	29	nd	nd	nd	10	5
n-C22	44	36	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	28	nd	nd	10	5
n-C25	26	<10	nd	nd	10	5
n-C26	26	29	13	nd	10	5
n-C27	25	<10	nd	nd	10	5
n-C28	24	23	11	nd	10	5



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## Boletim de Ensaio

Pág. 16 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_10_R2 (0-2cm) (µg/kg)	RC-BS_10_R3 (0-2cm) (µg/kg)	RC-BS_11_R1 (0-2cm) (µg/kg)	RC-BS_11_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	13	<10	nd	nd	10	5
n-C30	10	26	15	nd	10	5
n-C31	<10	<10	nd	nd	10	5
n-C32	13	nd	16	<10	10	5
n-C33	<10	43	nd	nd	10	5
n-C34	19	139	17	<10	10	5
n-C35	<10	11	nd	nd	10	5
n-C36	<10	<10	nd	<10	10	5
n-C37	<10	<10	nd	nd	10	5
n-C38	nd	<10	12	nd	10	5
n-C39	12	<10	nd	nd	10	5
n-C40	nd	nd	<10	nd	10	5





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## Boletim de Ensaio

Pág. 17 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_11_R3 (0-2cm) (µg/kg)	RC-BS_12_R1 (0-2cm) (µg/kg)	RC-BS_12_R2 (0-2cm) (µg/kg)	RC-BS_12_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	<10	15	10	29	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	<10	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	<10	10	5
n-C20	nd	nd	nd	10	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	nd	nd	nd	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 18 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_11_R3 (0-2cm) (µg/kg)	RC-BS_12_R1 (0-2cm) (µg/kg)	RC-BS_12_R2 (0-2cm) (µg/kg)	RC-BS_12_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	nd	nd	nd	nd	10	5
n-C30	nd	nd	<10	11	10	5
n-C31	nd	nd	nd	nd	10	5
n-C32	<10	nd	12	12	10	5
n-C33	nd	nd	<10	<10	10	5
n-C34	nd	nd	<10	<10	10	5
n-C35	nd	nd	nd	<10	10	5
n-C36	<10	<10	10	12	10	5
n-C37	nd	nd	<10	nd	10	5
n-C38	nd	nd	nd	nd	10	5
n-C39	<10	11	<10	<10	10	5
n-C40	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 19 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_13_R1 (0-2cm) (µg/kg)	RC-BS_13_R2 (0-2cm) (µg/kg)	RC-BS_13_R3 (0-2cm) (µg/kg)	RC-BS_14_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	<10	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	37	nd	nd	nd	10	5
n-C16	nd	nd	<10	nd	10	5
n-C17	<10	nd	<10	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	<10	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	<10	nd	nd	nd	10	5
n-C20	nd	nd	<10	nd	10	5
n-C21	<10	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	12	nd	14	<10	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	10	nd	10	5



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## Boletim de Ensaio

Pág. 20 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_13_R1 (0-2cm) (µg/kg)	RC-BS_13_R2 (0-2cm) (µg/kg)	RC-BS_13_R3 (0-2cm) (µg/kg)	RC-BS_14_R1 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	nd	nd	nd	10	5
n-C30	<10	11	18	nd	10	5
n-C31	nd	nd	nd	nd	10	5
n-C32	<10	11	15	<10	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	<10	<10	16	<10	10	5
n-C35	nd	nd	25	nd	10	5
n-C36	<10	13	<10	nd	10	5
n-C37	<10	nd	35	nd	10	5
n-C38	<10	nd	13	<10	10	5
n-C39	nd	23	<10	11	10	5
n-C40	nd	64	<10	<10	10	5



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## Boletim de Ensaio

Pág. 21 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_14_R2 (0-2cm) (µg/kg)	RC-BS_14_R3 (0-2cm) (µg/kg)	RC-BS_15_R1 (0-2cm) (µg/kg)	RC-BS_15_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	nd	11	15	15	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	nd	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	<10	<10	<10	<10	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 22 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_14_R2 (0-2cm) (µg/kg)	RC-BS_14_R3 (0-2cm) (µg/kg)	RC-BS_15_R1 (0-2cm) (µg/kg)	RC-BS_15_R2 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	<10	<10	<10	10	5
n-C30	<10	<10	<10	<10	10	5
n-C31	nd	nd	nd	nd	10	5
n-C32	11	<10	<10	<10	10	5
n-C33	<10	nd	nd	nd	10	5
n-C34	<10	<10	<10	<10	10	5
n-C35	<10	<10	<10	nd	10	5
n-C36	nd	<10	<10	<10	10	5
n-C37	nd	<10	<10	<10	10	5
n-C38	<10	<10	<10	nd	10	5
n-C39	<10	<10	nd	nd	10	5
n-C40	nd	nd	<10	nd	10	5



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## Boletim de Ensaio

Pág. 23 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_15_R3 (0-2cm) (µg/kg)	RC-BS_16_R1 (0-2cm) (µg/kg)	RC-BS_16_R2 (0-2cm) (µg/kg)	RC-BS_16_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C8	nd	nd	nd	nd	10	5
n-C9	nd	nd	nd	nd	10	5
n-C10	nd	nd	nd	nd	10	5
n-C11	nd	nd	nd	nd	10	5
n-C12	nd	nd	nd	nd	10	5
n-C13	nd	nd	nd	nd	10	5
n-C14	nd	nd	nd	nd	10	5
n-C15	12	28	14	<10	10	5
n-C16	nd	nd	nd	nd	10	5
n-C17	nd	<10	nd	nd	10	5
Pristano	nd	nd	nd	nd	10	5
n-C18	nd	nd	nd	nd	10	5
Fitano	nd	nd	nd	nd	10	5
n-C19	nd	nd	nd	nd	10	5
n-C20	nd	nd	nd	nd	10	5
n-C21	nd	nd	nd	nd	10	5
n-C22	nd	nd	nd	nd	10	5
n-C23	nd	nd	nd	nd	10	5
n-C24	nd	nd	nd	nd	10	5
n-C25	nd	nd	nd	nd	10	5
n-C26	nd	<10	<10	<10	10	5
n-C27	nd	nd	nd	nd	10	5
n-C28	nd	nd	nd	nd	10	5



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## Boletim de Ensaio

Pág. 24 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

Parâmetro	RC-BS_15_R3 (0-2cm) (µg/kg)	RC-BS_16_R1 (0-2cm) (µg/kg)	RC-BS_16_R2 (0-2cm) (µg/kg)	RC-BS_16_R3 (0-2cm) (µg/kg)	L.Q (µg/kg)	L.D. (µg/kg)
<b>n-Alcanos C8 - C40</b>						
n-C29	<10	nd	<10	nd	10	5
n-C30	<10	nd	nd	<10	10	5
n-C31	nd	nd	nd	nd	10	5
n-C32	<10	<10	<10	<10	10	5
n-C33	nd	nd	nd	nd	10	5
n-C34	nd	<10	nd	11	10	5
n-C35	nd	nd	<10	nd	10	5
n-C36	nd	nd	<10	nd	10	5
n-C37	<10	<10	<10	<10	10	5
n-C38	nd	nd	<10	nd	10	5
n-C39	nd	nd	nd	<10	10	5
n-C40	nd	nd	nd	nd	10	5





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## Boletim de Ensaio

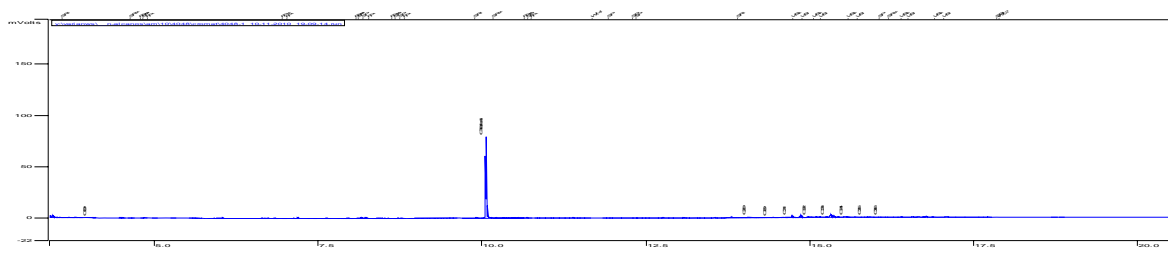
Pág. 25 de 37

Resp. Téc.: **Carina Casal**

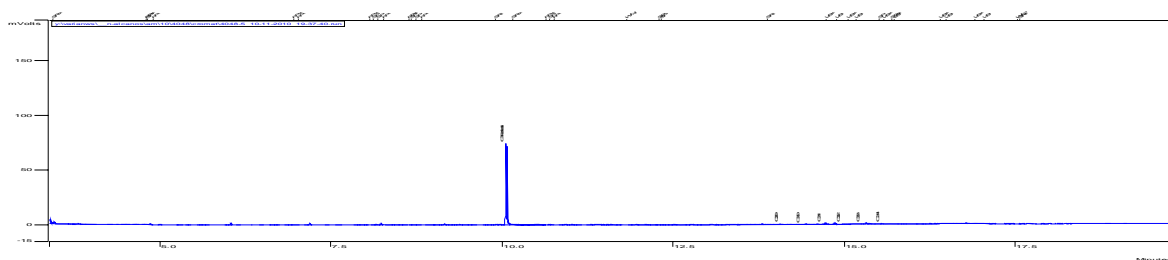
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

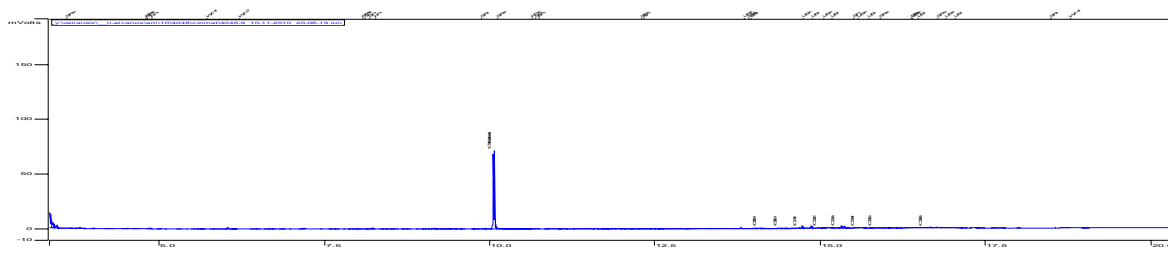
### RC-BS\_1\_R1 (0-2cm)



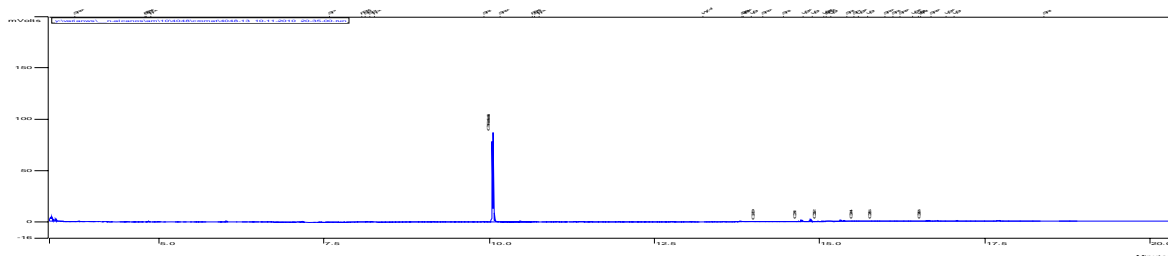
### RC-BS\_1\_R2 (0-2cm)



### RC-BS\_1\_R3 (0-2cm)



### RC-BS\_2\_R1 (0-2cm)



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## Boletim de Ensaio

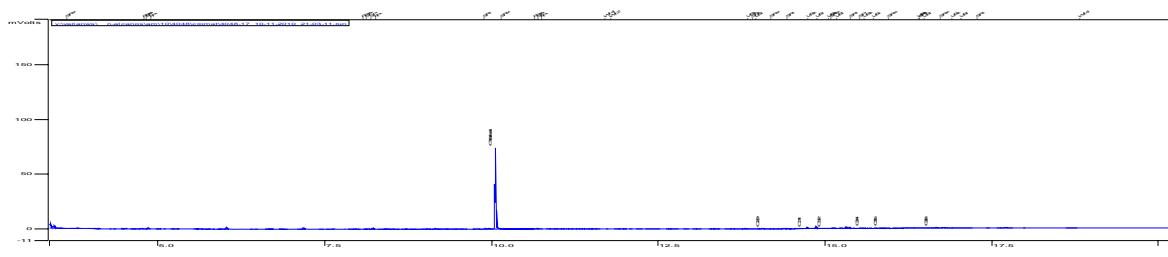
Pág. 26 de 37

Resp. Téc.: **Carina Casal**

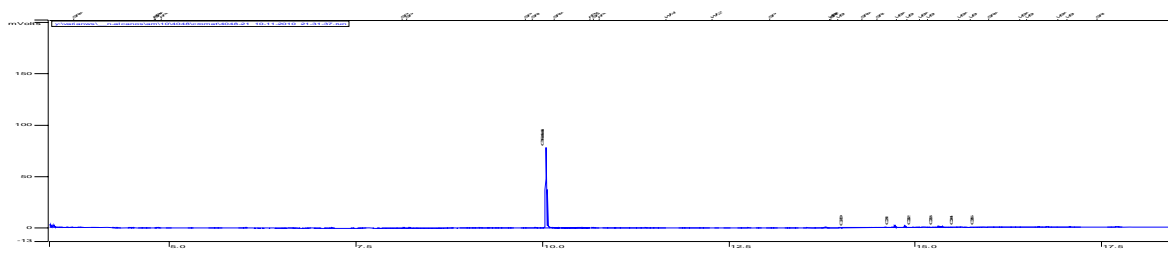
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

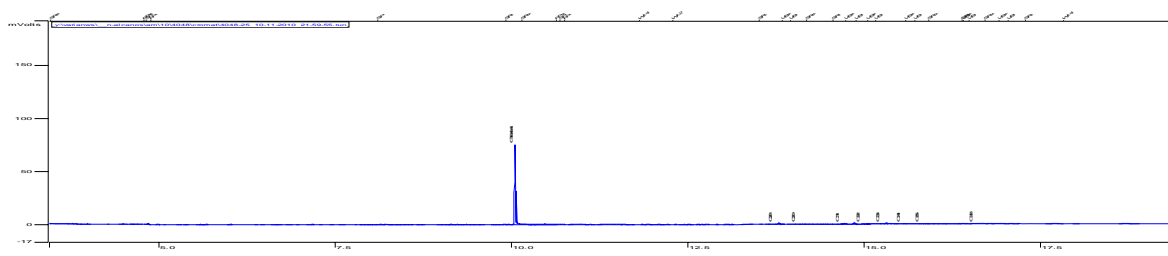
### RC-BS\_2\_R2 (0-2cm)



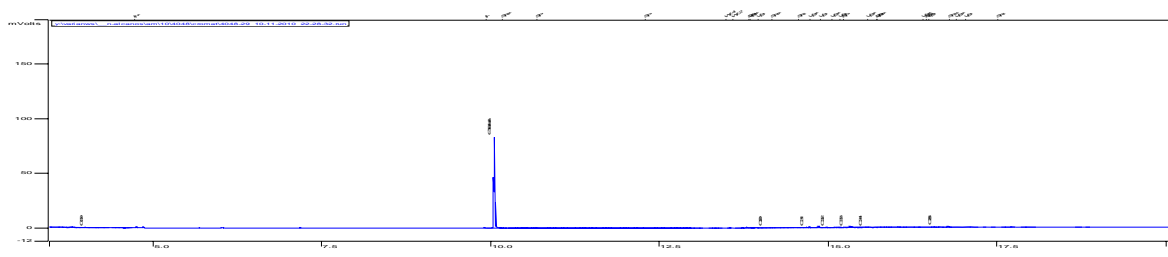
### RC-BS\_2\_R3 (0-2cm)



### RC-BS\_3\_R1 (0-2cm)



### RC-BS\_3\_R2 (0-2cm)



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## Boletim de Ensaio

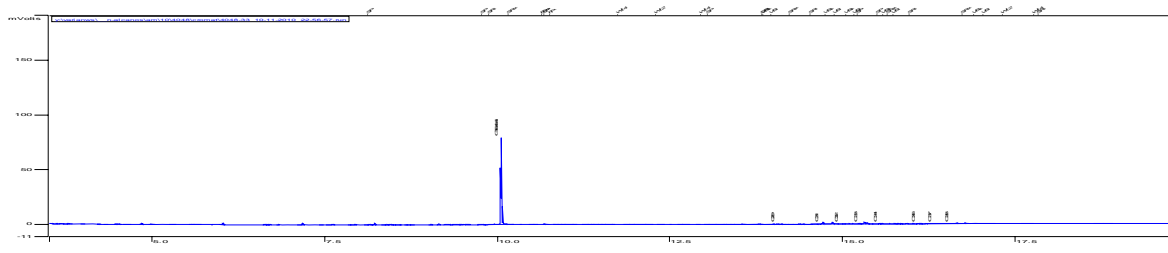
Pág. 27 de 37

Resp. Téc.: **Carina Casal**

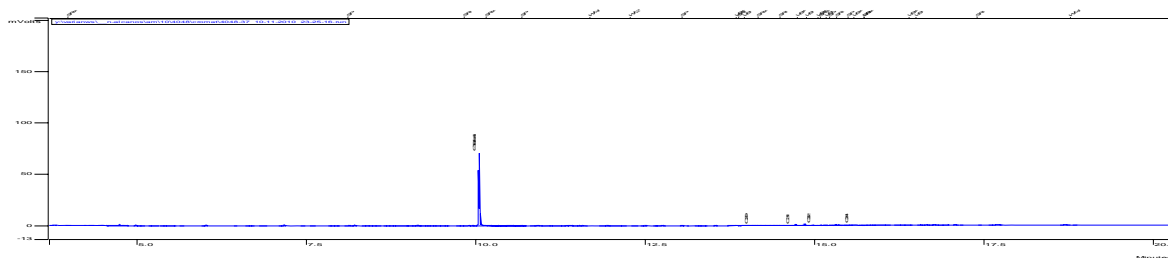
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

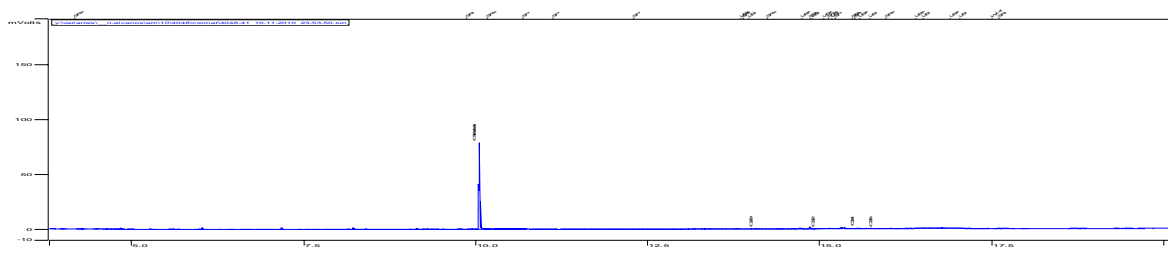
### RC-BS\_3\_R3 (0-2cm)



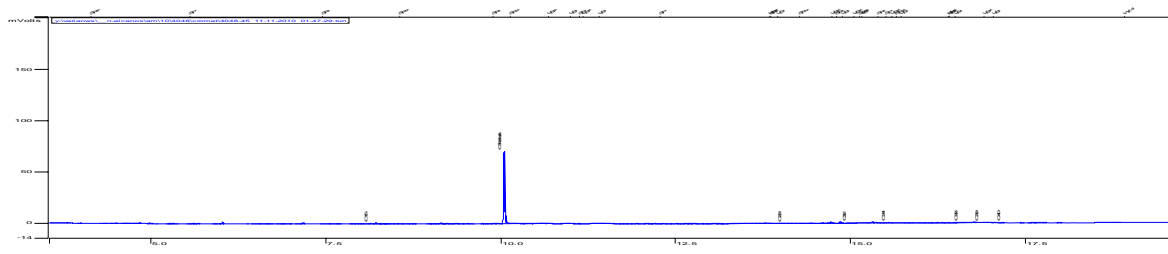
### RC-BS\_4\_R1 (0-2cm)



### RC-BS\_4\_R2 (0-2cm)



### RC-BS\_4\_R3 (0-2cm)



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## Boletim de Ensaio

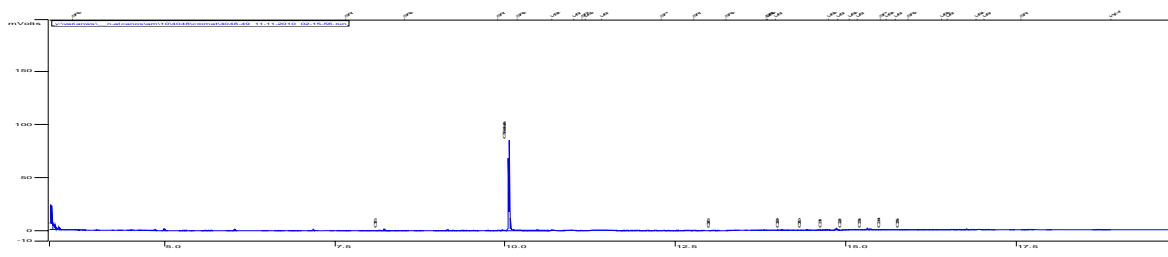
Pág. 28 de 37

Resp. Téc.: **Carina Casal**

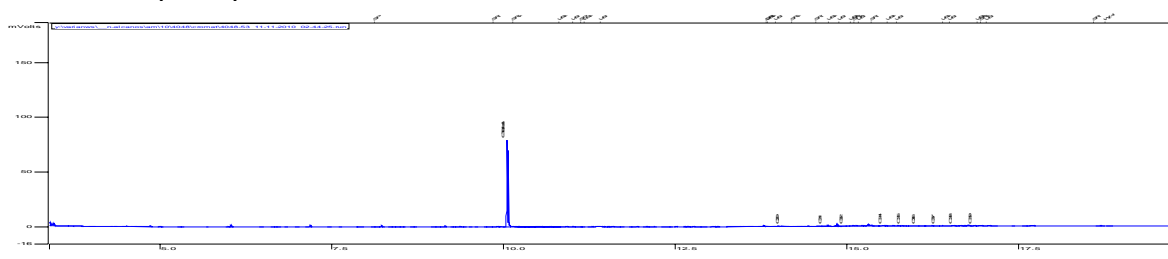
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

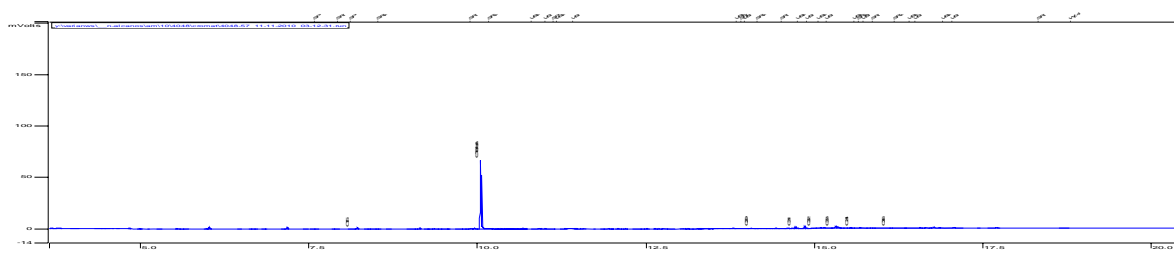
### RC-BS\_5\_R1 (0-2cm)



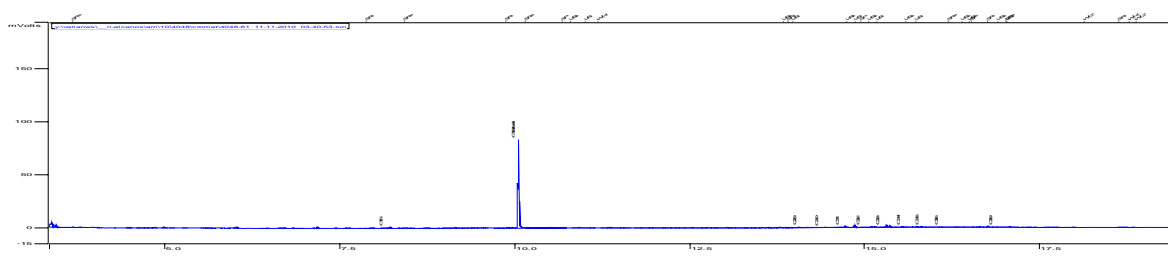
### RC-BS\_5\_R2 (0-2cm)



### RC-BS\_5\_R3 (0-2cm)



### RC-BS\_6\_R1 (0-2cm)



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## Boletim de Ensaio

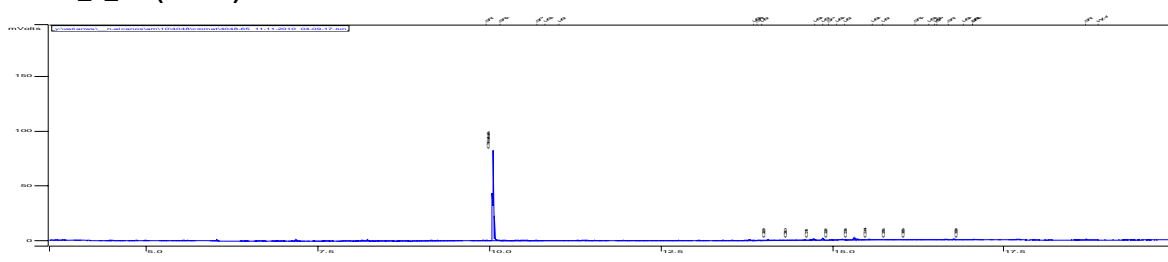
Pág. 29 de 37

Resp. Téc.: **Carina Casal**

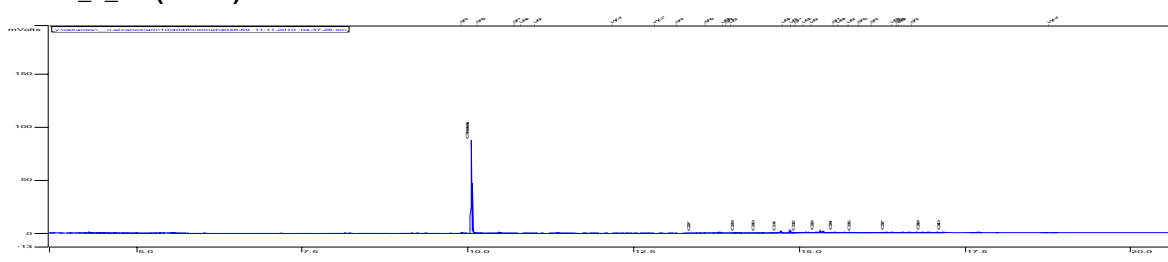
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

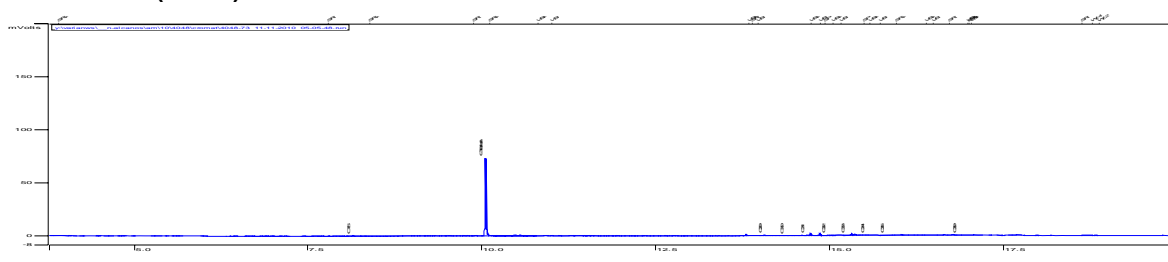
### RC-BS\_6\_R2 (0-2cm)



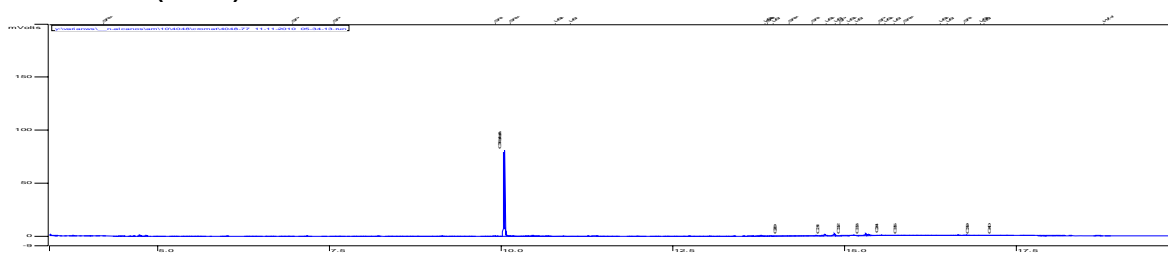
### RC-BS\_6\_R3 (0-2cm)



### RC-BS\_7\_R1 (0-2cm)



### RC-BS\_7\_R2 (0-2cm)



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## Boletim de Ensaio

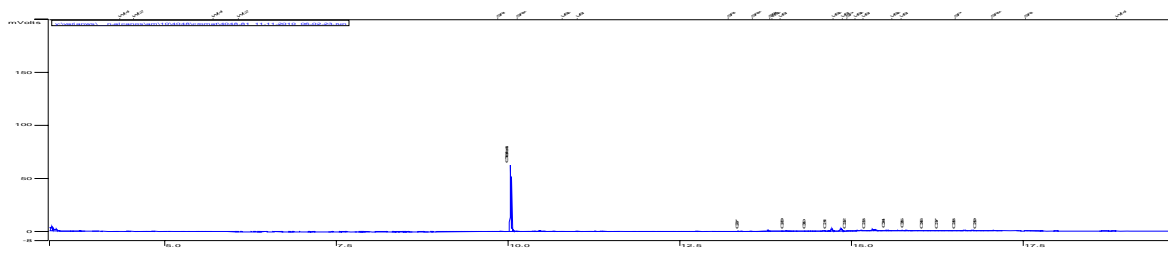
Pág. 30 de 37

Resp. Téc.: **Carina Casal**

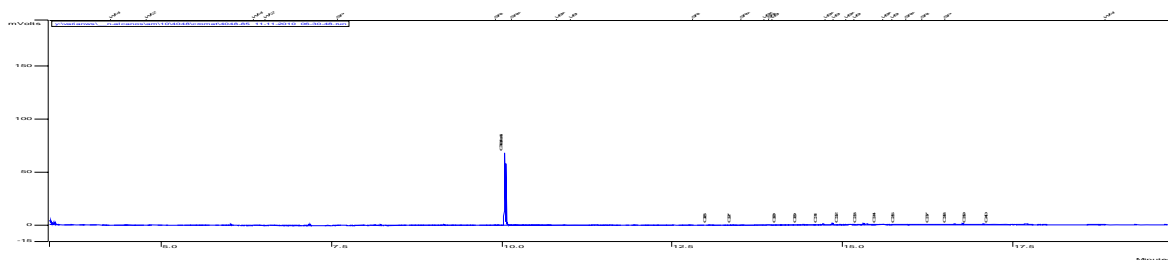
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

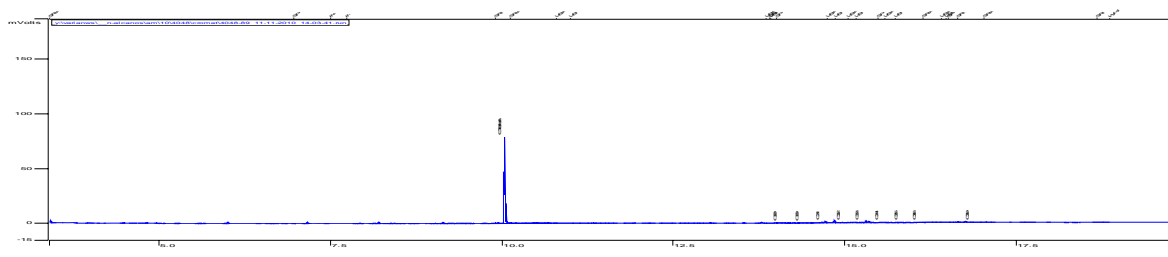
### RC-BS\_7\_R3 (0-2cm)



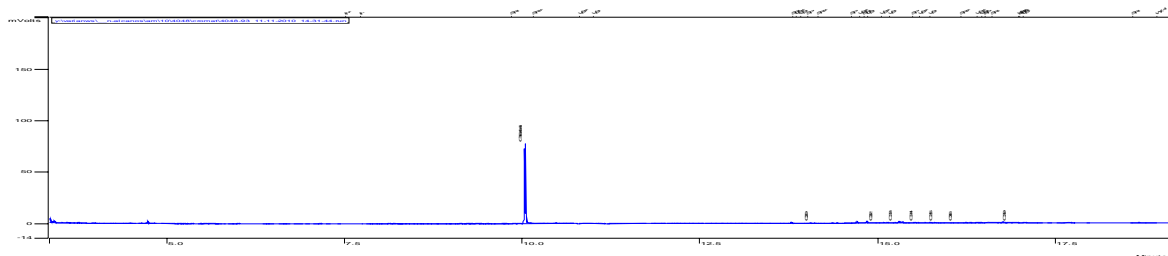
### RC-BS\_8\_R1 (0-2cm)



### RC-BS\_8\_R2 (0-2cm)



### RC-BS\_8\_R3 (0-2cm)



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## Boletim de Ensaio

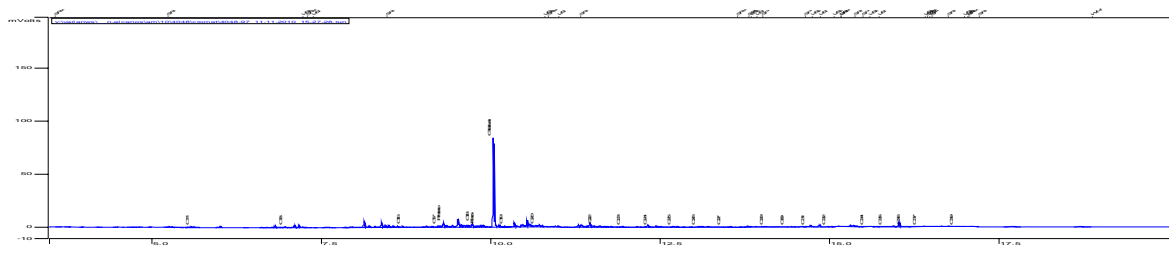
Pág. 31 de 37

Resp. Téc.: **Carina Casal**

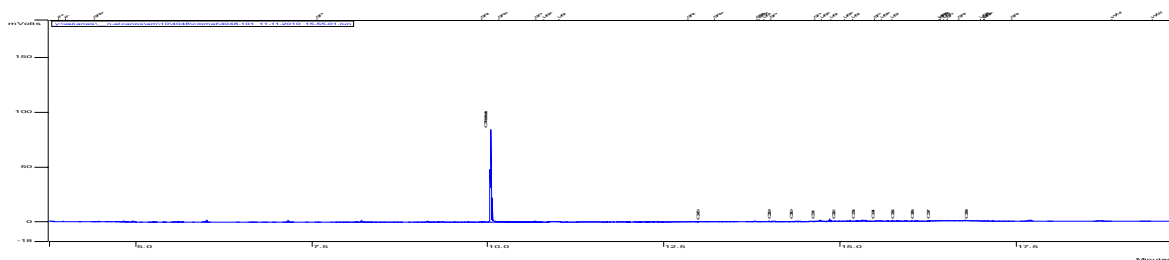
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

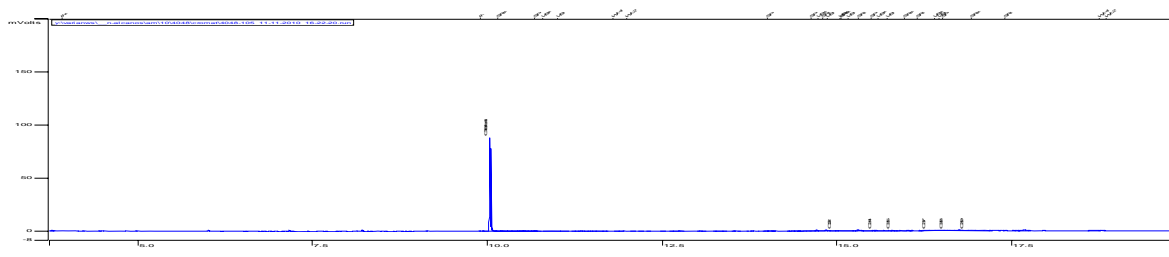
### RC-BS\_9\_R1 (0-2cm)



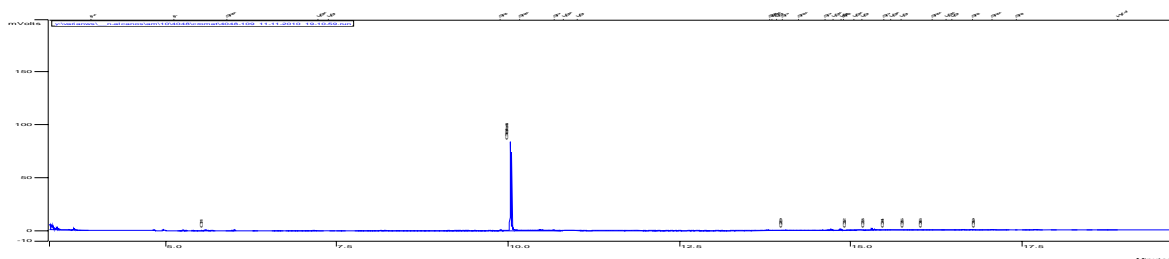
### RC-BS\_9\_R2 (0-2cm)



### RC-BS\_9\_R3 (0-2cm)



### RC-BS\_10\_R1 (0-2cm)



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## Boletim de Ensaio

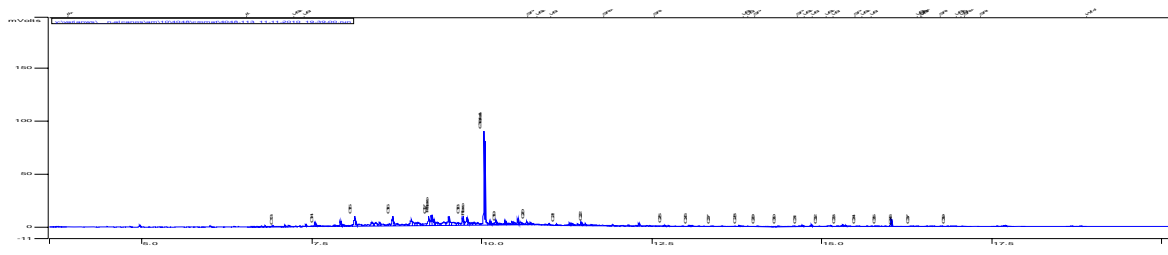
Pág. 32 de 37

Resp. Téc.: **Carina Casal**

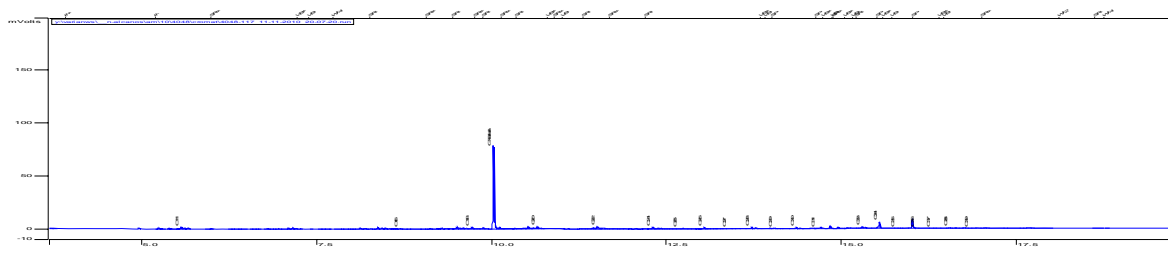
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

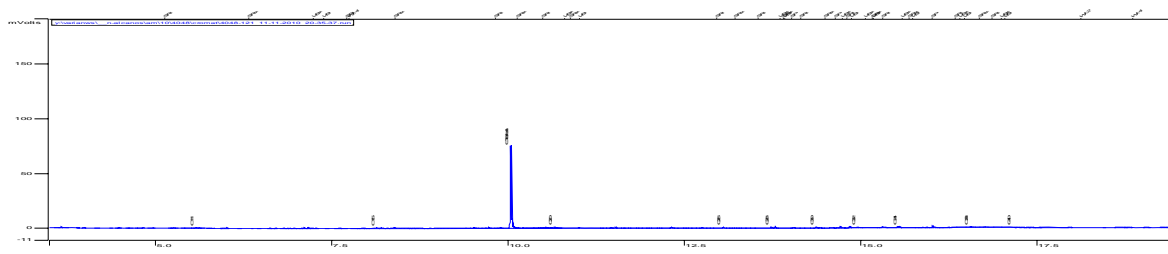
### RC-BS\_10\_R2 (0-2cm)



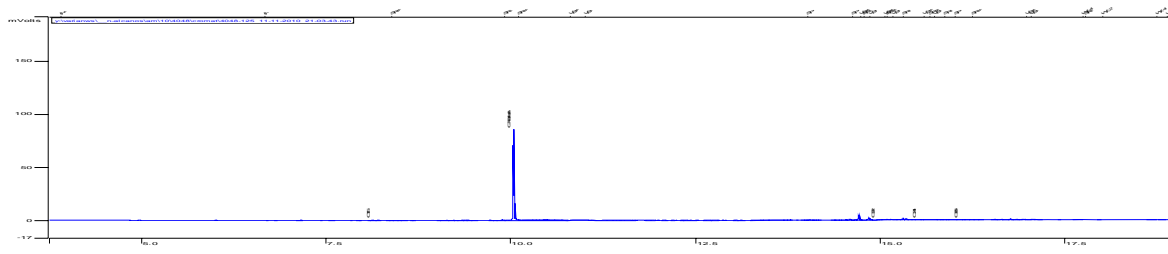
### RC-BS\_10\_R3 (0-2cm)



### RC-BS\_11\_R1 (0-2cm)



### RC-BS\_11\_R2 (0-2cm)



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## Boletim de Ensaio

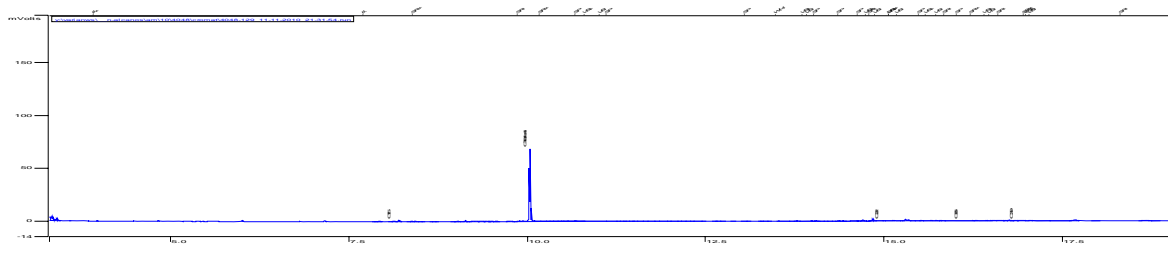
Pág. 33 de 37

Resp. Téc.: **Carina Casal**

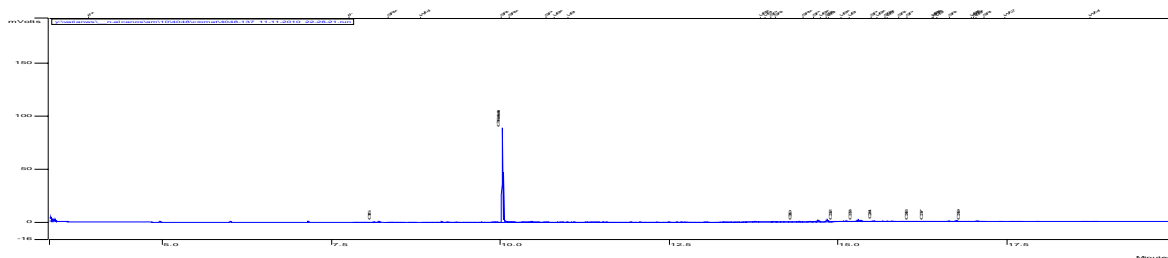
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

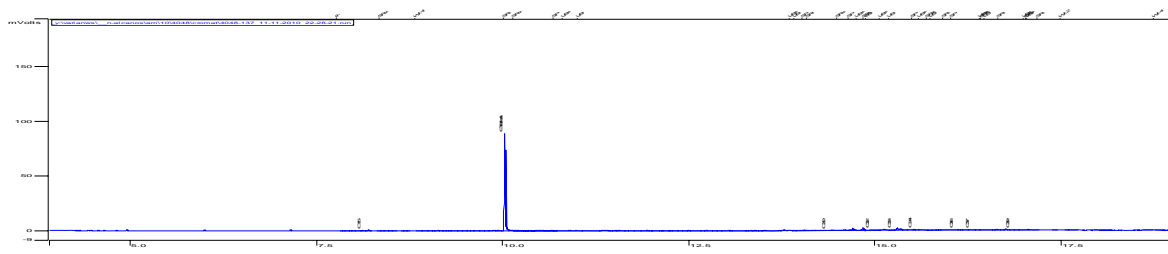
### RC-BS\_11\_R3 (0-2cm)



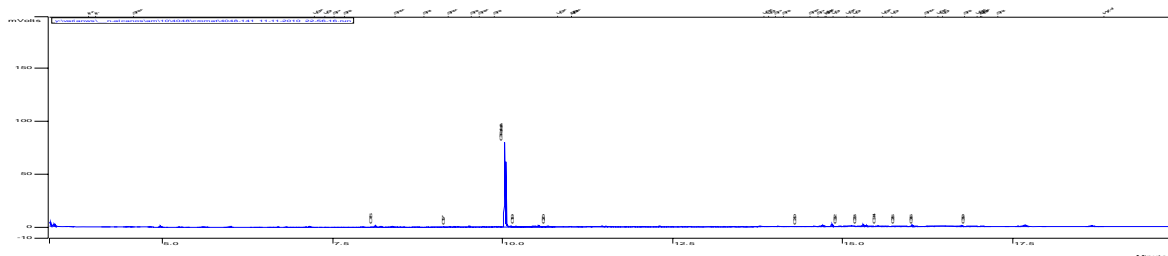
### RC-BS\_12\_R1 (0-2cm)



### RC-BS\_12\_R2 (0-2cm)



### RC-BS\_12\_R3 (0-2cm)



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## Boletim de Ensaio

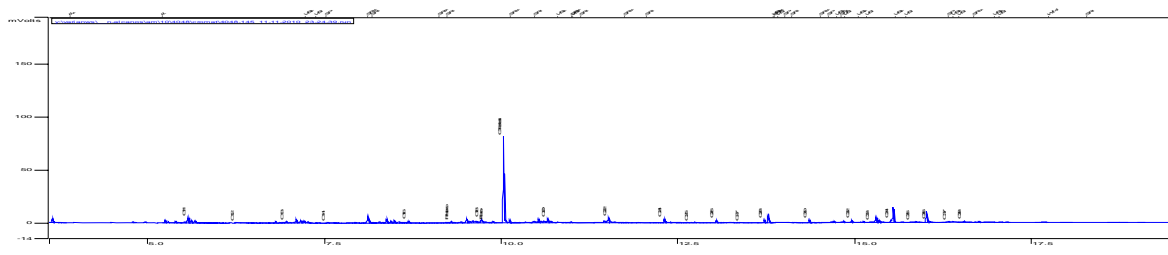
Pág. 34 de 37

Resp. Téc.: **Carina Casal**

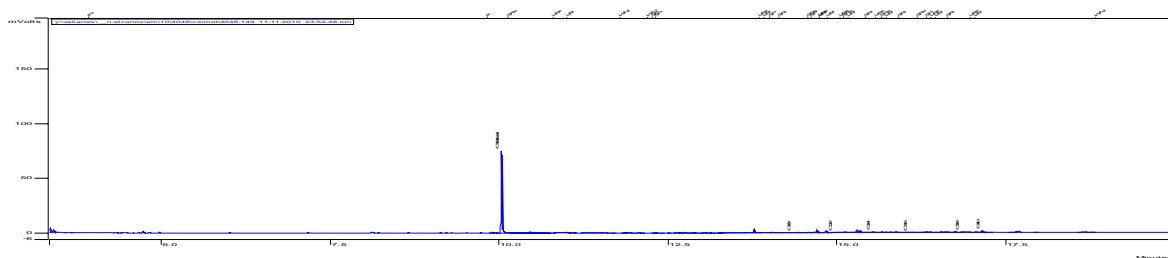
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

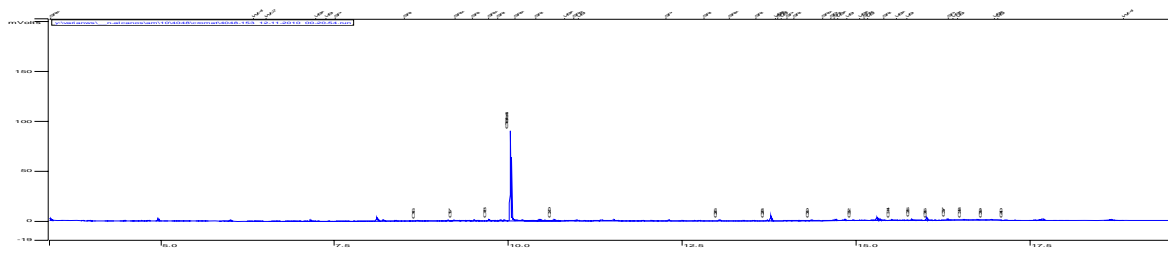
### RC-BS\_13\_R1 (0-2cm)



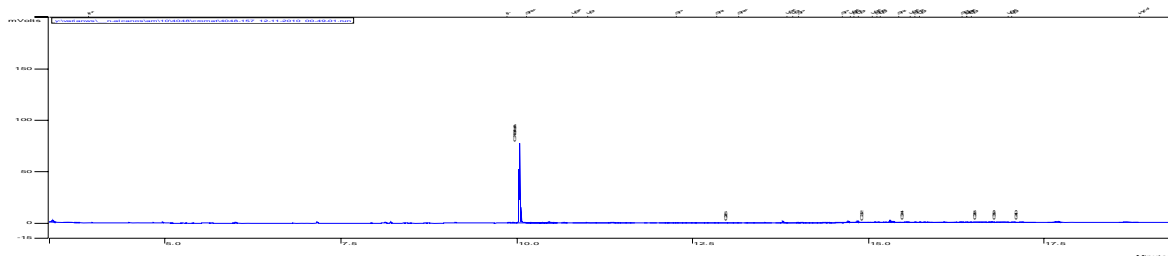
### RC-BS\_13\_R2 (0-2cm)



### RC-BS\_13\_R3 (0-2cm)



### RC-BS\_14\_R1 (0-2cm)



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## Boletim de Ensaio

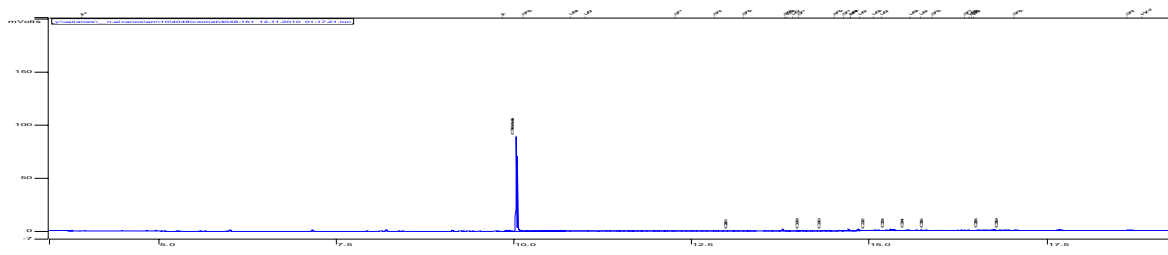
Pág. 35 de 37

Resp. Téc.: **Carina Casal**

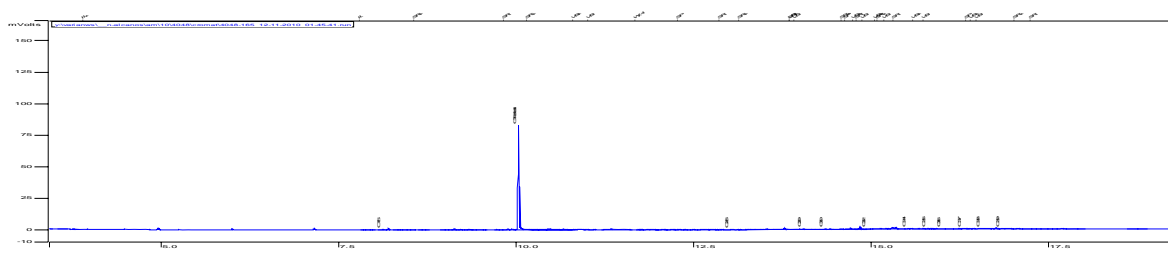
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

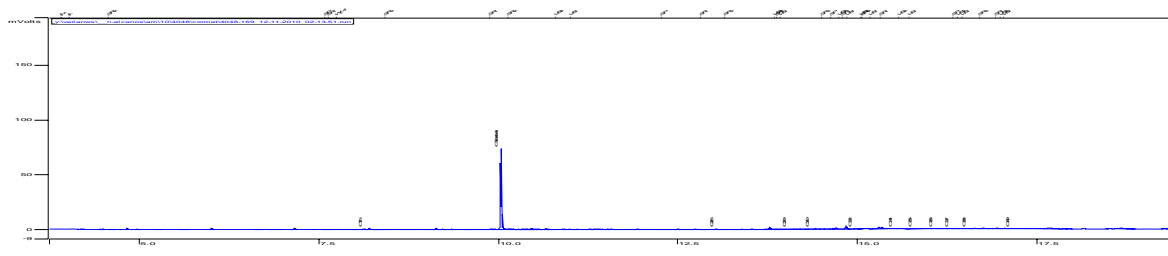
### RC-BS\_14\_R2 (0-2cm)



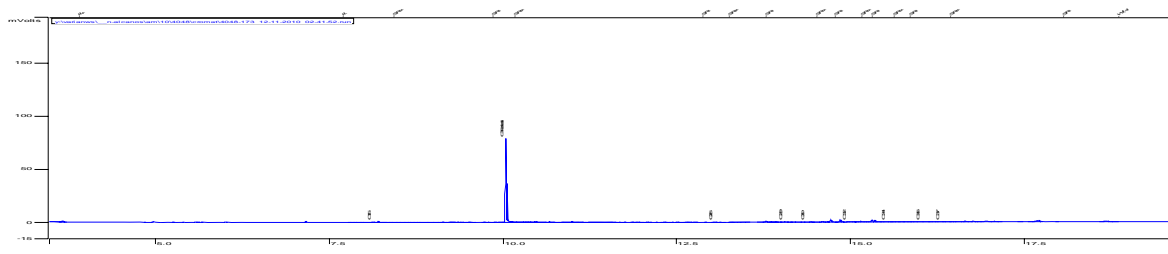
### RC-BS\_14\_R3 (0-2cm)



### RC-BS\_15\_R1 (0-2cm)



### RC-BS\_15\_R2 (0-2cm)





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## Boletim de Ensaio

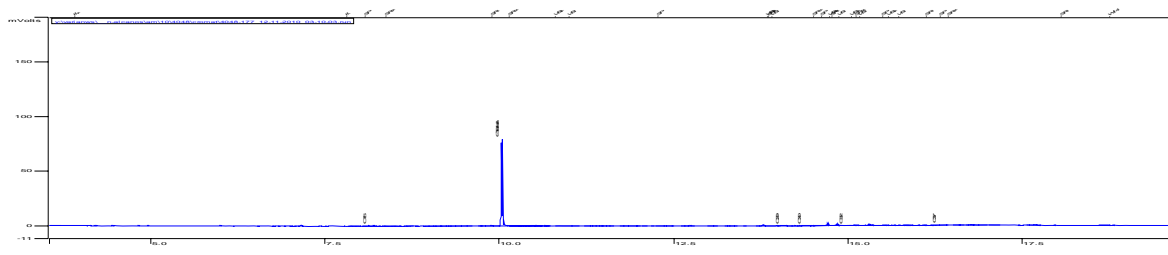
Pág. 36 de 37

Resp. Téc.: **Carina Casal**

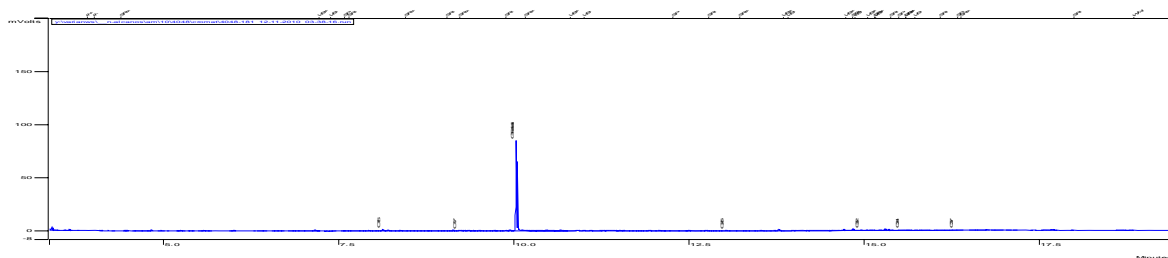
Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

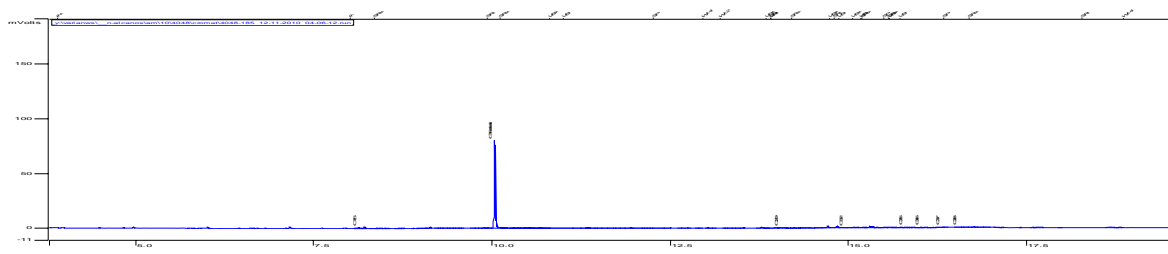
### RC-BS\_15\_R3 (0-2cm)



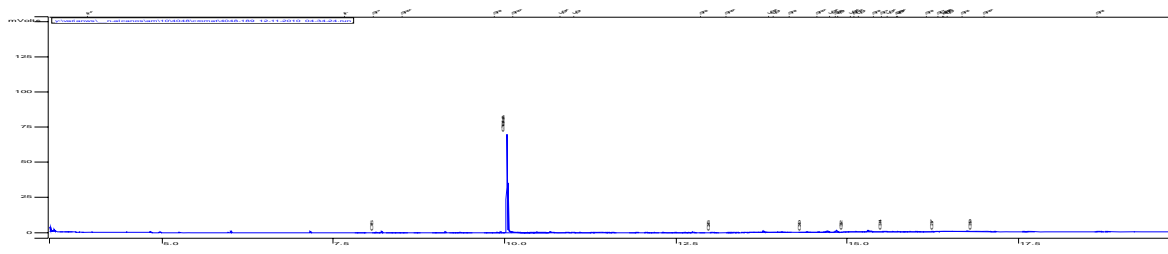
### RC-BS\_16\_R1 (0-2cm)



### RC-BS\_16\_R2 (0-2cm)



### RC-BS\_16\_R3 (0-2cm)



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## Boletim de Ensaio

Pág. 37 de 37

Resp. Téc.: **Carina Casal**

Emitido em: **22/02/2011**

Lab-nº: **10/4048C**

### Padrões de Controle Analítico – (PCA)

(Faixa de Aceitação: 70-130%)


Taxa de Recuperação (%)	
PCA	103

FM-004-L3A – Rev.00 18/02/2009– Apr. FEV/09

#### Observações

1. Ref. Método – ISO 16703:2001
2. Foram utilizados Brancos de Controle conforme metodologia informada conferido

  
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B. Sc, Eng. Quím. e Quím. Industrial  
CRQ – 03311142 CREA - 791006469

  
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Chefe Laboratório  
Químico  
CRQ - 03251114