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7. Anexos

7.1.

Estudos Antecedentes sobre análise isotópica de gases traço

Autores	Analito/ matriz	Préconcentração	Separação Cromatográfica	Oxidação	Aplicação
Poop <i>et al.</i> 1995	C ₁ / água e sedimento	Adsorvente Porapak-Q, etanol/N ₂ L	Poraplot-Q (-25°C)	Cu/Pt 1150°C	Diagêneses anaeróbica
Merritt <i>et al.</i> 1995	C ₁ / ar atmosférico	Coluna preparativa Hayesep-D, etanol/N ₂ L	Poraplot-Q (25°C)	NiO 1150°C	Efeito Estufa
Rice <i>et al.</i> 2001	C ₁ / ar atmosférico	Pré-coluna Hayesep-D, n- pentano/N ₂ L	Poraplot-Q (25°C)	CuO, NiO, Pt 980°C	Atmosfera Equatorial
Miller <i>et al.</i> 2002	C ₁ / ar atmosférico	Armadilha automática com Hayes ep-D, -120°C	Molecular Sieve 5A (25°C)	Ni, Pt 1150°C	Elucidção do ciclo do carbono
Brass <i>et al.</i> 2010	C ₁ / ar atmosférico	Armadilha automática com Hayes ep-D, -130°C	Poraplot-Q (25°C)	Alumina com Ni 1130°C	Efeito Estufa
Sowers <i>et al.</i> 2005	C ₁ / núcleos de gelo	Pré-coluna Hayesep-D, n- pentano/N ₂ L	Poraplot-Q (25°C)	Ni, Pt, Cu 980°C	Emissões históricas de metano
Behrens <i>et al.</i> 2008	C ₁ / núcleos de gelo	Armadilha automática com Hayes ep-D, -140°C Armadilha de limpeza do He Crio-focalização sob coluna CP- Porabond-Q em N ₂ L	Carbonplot 30°C	Al ₂ O ₃ / CuO, NiO, Pt 940°C	Reconstrução histórica de emissões de metano.
Fisher <i>et al.</i> 2006	C ₁ , CO ₂ / ar atmosférico	Remoção do CO ₂ com Carbosorb Oxidação de CO com Sofnocat	Poraplot-Q (25°C)	Pt/NiCr/Cu 980°C, Pt 800°C, Pd 790°C	Estudo sobre metodologias de combustão
Melton <i>et al.</i> 2011	C ₁ / núcleos de gelo	Armadilha com Hayesep-D, - 125°C. Armadilha de limpeza do He. Crio-focalização sob coluna GSQ-PLOT em N ₂ L. Oxidação de CO: Sofnocat e I ₂ O ₃	GSQ-PLOT (25°C) GSQ-Poraplot (25°C)	Microforno entre as colunas, Ni/Pt 1080°C.	Emissões antrópicas de CH ₄
Rudolph <i>et al.</i> 1997	VOC's / ar atmosférico	Remoção de H ₂ O e CO ₂ com Drierita e Carbosorb	Poraplot (35°C por 10 min, 2°C/min até 200°C)	Ni-Cu-Pt 980°C	Polição atmosférica
Komatsu <i>et al.</i> 2005	C ₁ -C ₃ / gás de exaustor	He purificado (coluna Molecular Sieve 5A em N ₂ L). Remoção de olefinas com I ₂ O ₃ . Concentração sob lâ de quartzo	CR-Porabond-Q (25°C por 14 min, 0,5-4°C/min até 200°C)	CuO/Pt 980°C	Produtos da queima de biomassa
Stadnitskaia <i>et al.</i> 2006	C ₁ -C ₃ / gás subsolo	C ₁ coletado sob Molecular Sieve 5A. C ₂ -C ₃ concentrados em N ₂ L.	Poraplot-Q		Fracionamento isotópico em lama vulcânica.

7.2. Fluxograma da verificação do sistema PreCon-GC-IRMS

