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6 Anexos

Anexo I: Programa de eluição do sistema LC 200 de cromatografia líquida.

Tempo (min)	Heptano (A)	Tolueno (B)	Diclorometano (C)
100	100%	0	0
2 (rampa)	100% → 80%	0 → 20%	0
200	80%	20%	0
2 (rampa)	80% → 50%	20% → 50%	0
200	50%	50%	0
2 (rampa)	50% → 0	50%	0 → 50%
200	0	50%	50%
2 (rampa)	0	50% → 0	50% → 100%
20	0	0	100%

Anexo II: Curvas de absorvância x concentração dos padrões NiOEP, NiEtioP e VOEP em 550 e 570 nm.

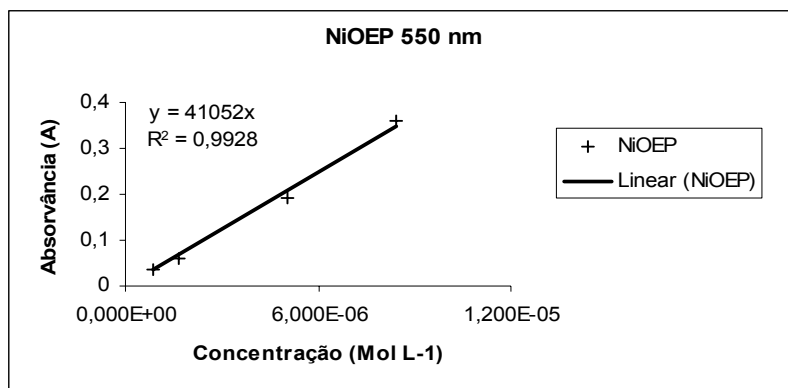


Figura 6.1: Curva de absorvância x concentração do padrão NiOEP em 550 nm.

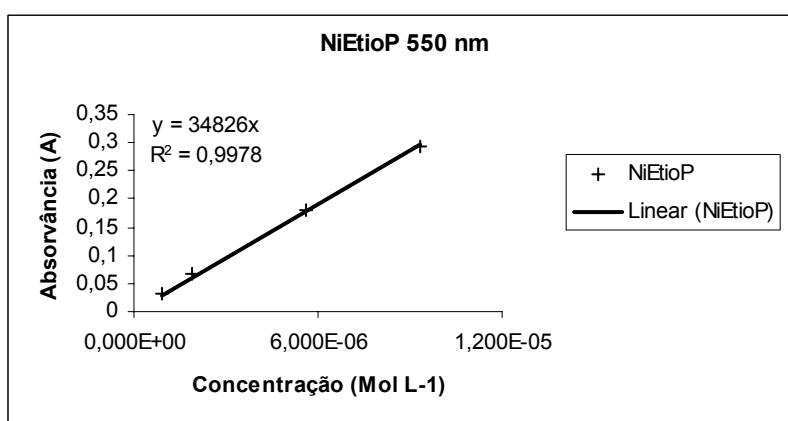


Figura 6.2: Curva de absorvância x concentração do padrão NiEtioP em 550 nm.

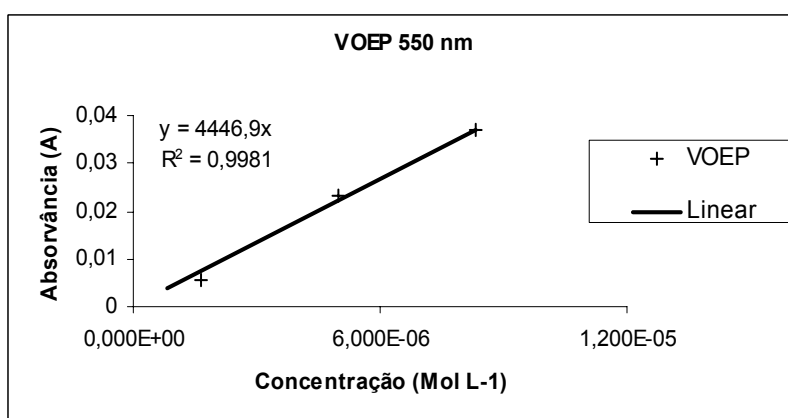


Figura 6.3 : Curva de absorvância x concentração do padrão VOEP em 550 nm

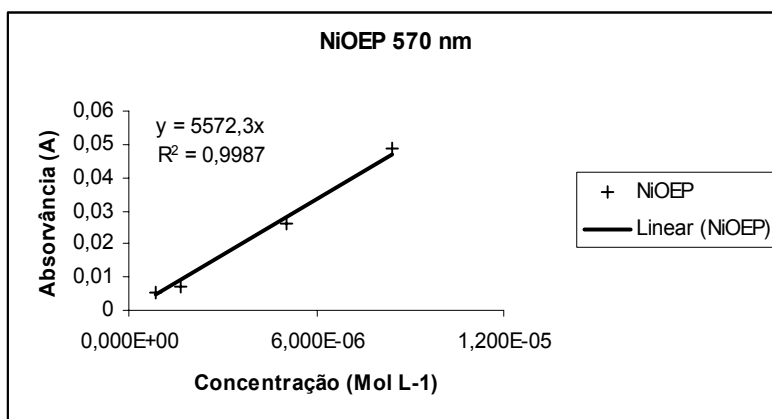


Figura 6.4: Curva de absorvância x concentração do padrão NiOEP em 570 nm.

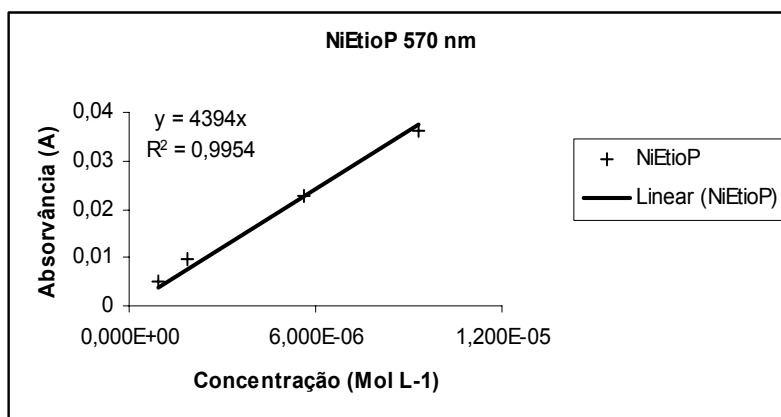


Figura 6.5: Curva de absorvância x concentração do padrão NiEtioP em 570 nm.

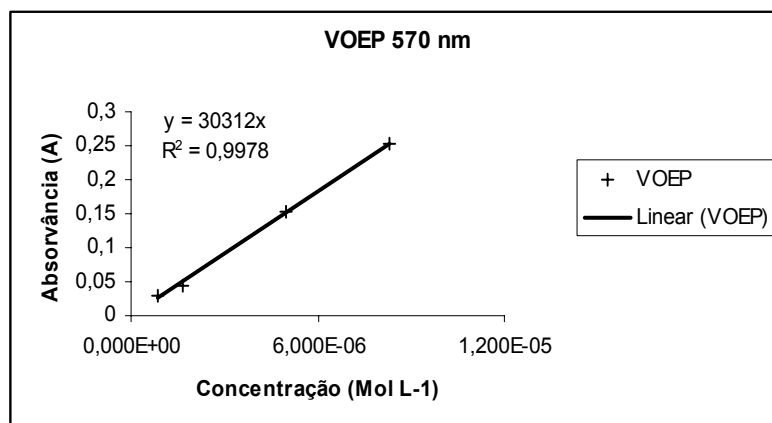


Figura 6.6: Curva de absorvância x concentração do padrão VOEP em 570 nm

Anexo III: Tabelas com os dados obtidos nos planejamentos experimentais.

Tabela 6.1 Planejamento experimental 2⁽⁷⁻⁴⁾ com metanol no nebulizador concêntrico.

Experimento	média	1 Ar	2 Lente	3 Potência	23 T°(Isomist)	12 aspiração(rpm)	13 %agua	123 Oxigênio
1	+	0,5	8	1200	-5	25	10	50
2	+	0,6	8	1200	-5	15	0	80
3	+	0,5	11	1200	-10	15	10	80
4	+	0,6	11	1200	-10	25	0	50
5	+	0,5	8	1300	-10	25	0	80
6	+	0,6	8	1300	-10	15	10	50
7	+	0,5	11	1300	-5	15	0	50
8	+	0,6	11	1300	-5	25	10	80

Experimento	Rh	Ba	Ce	Ba++	CeO+	Ba++/CeO+	log(++/O+)	%Ba++	%CeO+
1	256841	258279	162860	6588	3138	2,10	0,322115	2,55	1,93
2	33288	28182	16128	287	929	0,31	-0,51098	1,02	5,76
3	156208	170761	110506	2527	4017	0,63	-0,20125	1,48	3,64
4	167025	159890	137284	1843	3397	0,54	-0,26553	1,15	2,47
5	289938	250674	234276	6140	6717	0,91	-0,03903	2,45	2,87
6	128745	116226	97106	1457	2829	0,52	-0,28812	1,25	2,91
7	266562	251504	236455	9318	3588	2,60	0,414423	3,70	1,52
8	82687	65241	64036	734	2989	0,25	-0,61004	1,12	4,67

Tabela 6.2 Otimização de análise com metanol no micronebulizador PFA-100

Ar	Intensidades								
	Rh	In	Pb	Ce	CeO	Ba	Ba 2 +	BaO	log++/O+
0,4	113938,6	94419,6	48977,7	117060,2	2003	64583,9	7679	66,7	0,583624
0,41	120087,3	106808,9	65421,8	121689,1	2398	95220,6	7444	91,3	0,491957
0,42	129010,3	120865,6	54788,8	141930,8	2783	118811,4	8620	110	0,490994
0,43	137068,6	130451,8	54561,8	158098,1	3246	79996,4	7823	105,3	0,382025
0,44	137035,5	121881,8	53952,2	207113,4	3073	130507,7	7047	142,7	0,360442
0,45	138692,0	121667	47438,7	152343,9	3234	80046,3	6103	136,3	0,275803
0,46	140686,3	129353,7	57435,3	160229,7	3564	122379,4	5569	145,7	0,19384
0,47	135190,1	129075,4	61883,1	199705,3	3753	130069,5	4329	139,7	0,062009
0,48	126396,3	123230	62402,6	160647,6	3815	96167,5	3652	167,3	-0,01896
0,49	120524,0	120813,9	66395,1	155375,5	3854	100799,8	3151	173,7	-0,08746
0,5	114936,7	114236,8	57259,7	144701,9	3556	116117,8	2878	182	-0,09187

Tabela 6.3 Planejamento experimental 2² com Tolueno no micronebulizador PFA-100

Experimento	Ar	Oxigênio	Potência	In	Intensidades							
					Ni	V	Pb	Ba	Ba 2+	BaO	% Ba2+	% BaO
1	0,45	0,1	1350	73675,9	5635,7	35214,1	64380,6	66014,6	1087,4	94,00	1,65	0,14
2*	0,465	0,105	1350	52369	3896,8	26050,9	29376,1	43784,4	650	48,70	1,48	0,11
3	0,48	0,1	1350	74731,3	4537,5	26666,4	52136,1	44991,1	742,4	47,00	1,65	0,10
4	0,45	0,1	1350	80503,4	5666,4	34175,8	63439,7	72469,6	1113,7	85,70	1,54	0,12
5	0,48	0,11	1350	39357,8	3187,9	21786,4	20925,7	31204	473,3	49,00	1,52	0,16
6	0,45	0,11	1350	54745,9	4077,9	24632,0	32993,8	40410,5	680,4	46,70	1,68	0,12
7	0,48	0,1	1350	40888,6	3532,7	22450,4	21566,6	35114,3	529,7	45,00	1,51	0,13
8*	0,465	0,105	1350	50533,8	4747,6	27820,5	31760,4	42330,5	638,7	63,00	1,51	0,15
9	0,45	0,11	1350	61399,6	4616,8	30345,2	43722,2	52644,5	839,7	85,30	1,60	0,16
10	0,48	0,11	1350	39472,3	3369,0	22306,3	19911,5	32062,1	453	33,30	1,41	0,10

* Ponto central