

## CLASSIFICAÇÃO PERIÓDICA: UM EXEMPLO DIDÁTICO PARA ENSINAR ANÁLISE DE COMPONENTES PRINCIPAIS

Wellington da Silva Lyra, Edvan Cirino da Silva, Mario Cesar Ugulino de Araújo e Wallace Duarte Fragoso\*

Departamento de Química, Universidade Federal da Paraíba, 58051-970 João Pessoa – PB, Brasil

Germano Veras

Departamento de Química, Universidade Estadual da Paraíba, 58109-753 Campina Grande – PB, Brasil

Tabela 1S. Propriedades dos elementos

Elemento	RA (pm)	EN (Pauli)	EI (KJ mol <sup>-1</sup> )	AE (KJ mol <sup>-1</sup> )	CT (W m <sup>-1</sup> K <sup>-1</sup> )	D (g cm <sup>-3</sup> )	S° (J K <sup>-1</sup> mol <sup>-1</sup> )	CE (J g <sup>-1</sup> °C <sup>-1</sup> )
H	78	2.2	1310	73	0.1815	8.38E-05	130.684	14.4
He	128	0	2370	0	0.1513	0.000166	126.15	5.23
Ne	38	0	2080	0	0.0491	0.000839	146.33	1.03
Ar	71	0	1520	0	0.01772	0.001663	154.84	0.523
Kr	88	0	1350	0	0.00943	0.003488	164.08	0.247
Xe	108	0	1170	0	5.5	0.005495	169.68	0.159
Rn	120	0	1036	0	0.00361	0.00996	173.811	0.092
B	88	2.04	799.2	27	27	2.34	5.9	1.11
Si	118	1.9	786	134	150	2.33	18.83	0.712
Ge	122	2.01	784	116	60	5.323	31.1	0.322
As	121	2.18	947	78	50	5.78	35.1	0.331
Sb	141	2.05	834	103	24	6.691	45.69	0.205
Te	137	2.1	870	190	3	6.24	49.7	0.201
Po	167	2	812	174	20	9.32	62.3	0.12
C	77	2.55	1090	122	140	2.26	5.74	0.691
N	74	3.04	1400	-7	0.02583	0.001165	191.61	1.03
P	110	2.19	1011	72	0.236	1.83	41.09	0.741
O	66	3.44	1310	141	0.2658	0.001332	205.138	0.913
S	104	2.58	1000	200	0.205	2.07	31.8	0.707
Se	117	2.55	941	195	0.52	4.79	42.4	0.318
F	64	3.98	1680	328	0.0277	0.001696	202.78	0.753
Cl	99	3.16	1255	349	0.0089	0.003214	223.07	0.486
Br	114	2.96	1140.2	325	0.12	3.12	152.23	0.293
I	133	2.66	1008	295	5.5	4.93	116.35	0.218
Li	157	0.98	519	60	84.8	0.534	29.12	3.58
Na	191	0.93	494	53	140	0.9712	51.21	1.23
K	235	0.82	418	48	102.4	0.862	64.18	0.758
Rb	250	0.82	402	47	58	1.532	76.8	0.364
Cs	272	0.79	376	46	36	1.873	85.23	0.243
Be	112	1.57	900	1	190	1.848	9.5	1.83
Mg	160	1.31	736	1	156	1.738	32.68	1.03
Ca	197	1	590	2	200	1.55	41.42	0.624
Sr	215	0.95	548	5	35.3	2.54	55	0.737
Ba	224	0.9	502	14	18	3.594	62.8	0.205
Ra	223	0.9	509.979	10	18.6	5	71	0.12

Fonte: ref. 16

Tabela 1S. Continuação

Elemento	RA (pm)	EN (Pauli)	EI (KJ mol <sup>-1</sup> )	AE (KJ mol <sup>-1</sup> )	CT (W m <sup>-1</sup> K <sup>-1</sup> )	D (g cm <sup>-3</sup> )	S° (J K <sup>-1</sup> mol <sup>-1</sup> )	CE (J g <sup>-1</sup> °C <sup>-1</sup> )
Al	143	1.61	577	43	235	2.699	28.33	0.9
Ga	153	1.81	577	29	29	5.907	40.8	0.377
In	167	1.78	556	29	82	7.31	57.8	0.233
Tl	171	2.04	590	19	46	11.85	64.2	0.13
Sn	158	1.96	707	116	67	7.2984	51.55	0.226
Pb	175	2.38	716	35	35	11.35	64.81	0.129
Bi	182	2.02	703	91	8	9.747	56.74	0.122
Sc	164	1.36	631	18	16	2.99	34.6	0.569
Ti	147	1.54	658	7.6	22	4.54	30.7	0.523
V	135	1.63	650	51	31	6.11	28.9	0.49
Cr	129	1.66	653	64	94	7.19	23.77	0.448
Mn	137	1.55	717	1	7.8	7.44	32	0.481
Fe	124	1.83	759	16	80	7.874	27.28	0.447
Co	125	1.88	760	64	100	8.85	30	0.423
Ni	125	1.91	737	156	91	8.902	29.9	0.444
Cu	128	1.9	785	118	400	8.96	33.15	0.385
Zn	137	1.65	906	9	120	7.133	41.63	0.389
Y	182	1.22	616	30	17	4.469	44.4	0.297
Zr	160	1.33	660	41	23	6.506	39	0.276
Nb	147	1.6	664	86	54	8.57	36.4	0.264
Mo	140	2.16	685	72	139	10.22	28.7	0.251
Ru	134	2.2	711	101	120	12.37	28.5	0.239
Rh	134	2.28	720	110	150	12.41	31.5	0.243
Pd	137	2.2	805	54	72	12.02	37.6	0.243
Ag	144	1.93	731	126	430	10.49	42.55	0.234
Cd	152	1.69	868	1	97	8.65	51.76	0.226
La	188	1.1	538	50	13	6.189	56.9	0.195
Hf	159	1.3	642	51	23	13.31	43.6	0.144
Ta	147	1.5	761	14	57	16.6	41.5	0.138
W	141	2.36	770	79	170	19.3	32.6	0.134
Re	137	1.9	760	14	48	21.02	36.9	0.134
Os	135	2.2	840	106	88	22.59	32.6	0.13
Ir	136	2.2	880	151	150	22.5	35.5	0.13
Pt	139	2.28	870	205	72	21.45	41.6	0.134
Au	144	2.54	890	223	320	19.32	47.4	0.131
Hg	155	2	1007	-18	8.3	13.55	76.02	0.138
Ce	183	1.12	527	50	11	6.768	72	0.188
Pr	183	1.13	523	50	12.5	6.773	73.2	0.197
Nd	182	1.14	530	1	17	7.007	71.5	0.188
Sm	180	1.17	543	50	13	7.52	69.6	0.197
Eu	204	1.2	547	50	14	5.243	77.8	0.163
Gd	180	1.2	592	50	11	7.9	68.1	0.234
Tb	178	1.2	565	50	11	8.229	73.2	0.18
Dy	177	1.2	572	51	11	8.55	75.6	0.172
Ho	177	1.23	581	50	16	8.79	75.3	0.165
Er	176	1.24	589	50	15	9.15	73.2	0.167
Tm	175	1.25	597	50	17	9.32	74	0.159
Yb	194	1.1	603	50	39	6.965	59.9	0.155
Lu	172	1.27	524	50	16	9.849	51	0.155
Ac	188	1.1	499	11	12	10.06	56.5	0.092
Th	180	1.3	587	12	54	11.72	51.8	0.117
Pa	161	1.5	568	11	47	15.37	51.9	0.12
U	138	1.38	584	13	27	18.95	50.2	0.117