L2-CHEMR





Level 2 Chemistry 2021

RESOURCE BOOKLET

Refer to this booklet to answer the questions in your Question and Answer Booklets.

Check that this booklet has pages 2–3 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

Formulae for 91164: Demonstrate understanding of bonding, structure, properties and energy changes

n = cV $\Delta_r H = \Sigma$ bond energies (bonds broken) – Σ bond energies (bonds formed)

$$n = \frac{m}{M}$$

Formulae for 91166: Demonstrate understanding of chemical reactivity

$$K_{\rm w} = [H_3 O^+][OH^-] = 1 \times 10^{-14} \text{ at } 25 \text{ }^{\circ}\text{C}$$

$$pH = -\log[H_3O^+] \qquad [H_3O^+] = 10^{-pH}$$

PERIODIC TABLE OF THE ELEMENTS

18	2	He	4.0	10	Ne	20.2	18	Ar	40.0	36	Kr	83.8	54	Xe	131	98	Rn	222	118	$^{\mathrm{og}}$	
			IJ	6		19.0	17	C	35.5	35	\mathbf{Br}	79.9			127		At	210	117	$\Gamma_{\mathbf{S}}$	
			91	8	0	16.0	16	S	32.1	34	Se	79.0	52	Te	128	84	P_0	210	116	Lv	
			15	7	Z	14.0	15	Ь	31.0	33	As				122		Bi	209	115	Mc	
			14	9	C	12.0	14		28.1	32	Ge	72.6	50	Sn	119	82	Pb	207	114	F	
			13	5	B	10.8	13	A	27.0	31	Ga	2.69	49	In	115	81	Ξ	204	113	Nh	
										30	Zn	65.4	48	Cd	112	08	$_{ m Hg}$	201	112	Cn	277
									II	29	Cu	9.89	47	Ag	108			197	1111	Rg	272
			01^{-1}						0I	28	Z	58.7	46	Pd	106	78	Pt	195	110	Ds	271
			folar mass/g mol-1						6	27	Co	58.9	45	Rh	103	77	Ir	192	109	Mt	268
			Molar m						8	26	Fe	55.9	44	Ru	101	92	Os	190	108	Hs	265
	1	Н	1.0						_	25	Mn	54.9	43	Tc	6.86	75	Re	186	107	Bh	264
'	Atomic number 1			1						24	$C_{\mathbf{r}}$	52.0	42	Mo	95.9 98.9	74	*	184	106	S	263
	Atomic 1								\sim		>	6.09		S	2.9		$\mathbf{I}_{\mathbf{z}}$	181	5	Db	262
									4	22	Ξ	47.9	40	Zr	88.9 91.2 9	72	Hf	179	104	Rf	261
									3	21	Sc	45.0	39	X	88.9	71	Lu	175	103	Lr	262
			7	4	Be	9.0	12	Mg	_											Ra	226
			I	3	Li	6.9	11	Na	23.0	19	K	39.1	37	Rb	85.5 87.6	55	Cs	133	87	\mathbf{Fr}	223

	57	58	59	09	61	62	63	64	65	99	29	89	69	70
Lanthanide	La	Ce		Nd	Pm	Sm	Eu	Сd	$\mathbf{T}\mathbf{b}$	Dy	Ho	Er	Tm	ΧÞ
Series	139	140	141	144	147	150	152	157	159	163	165	167	169	173
	68	06	91	92	93	94	98	96	<i>L</i> 6	86	66	100	101	102
Actinide	Ac	$\mathbf{T}\mathbf{h}$	Pa	Ω	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No
Series	227	232 231	231	238	237	239	241	244	249	251	252	257	258	259
									1					+