

L2-CHEMR



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## 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***

$$n = cV \quad \Delta_r H = \Sigma \text{ bond energies (bonds broken)} - \Sigma \text{ bond energies (bonds formed)}$$

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

**Formulae for 91166: *Demonstrate understanding of chemical reactivity***

$$K_w = [\text{H}_3\text{O}^+][\text{OH}^-] = 1 \times 10^{-14} \text{ at } 25 \text{ }^\circ\text{C}$$

$$\text{pH} = -\log[\text{H}_3\text{O}^+] \quad [\text{H}_3\text{O}^+] = 10^{-\text{pH}}$$

# PERIODIC TABLE OF THE ELEMENTS

18

		Atomic number																		
		Molar mass/g mol <sup>-1</sup>																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
	H	He																		
3	Li 6.9	Be 9.0	B 10.8	C 12.0	N 14.0	O 16.0	F 19.0	Ne 20.2	11	12	13	14	15	16	17	18	19	20	21	
11	Na 23.0	Mg 24.3	Al 27.0	Si 28.1	P 31.0	S 32.1	Cl 35.5	Ar 40.0	22	23	24	25	26	27	28	29	30	31	32	
19	K 39.1	Ca 40.1	Sc 45.0	Ti 47.9	V 50.9	Cr 52.0	Mn 54.9	Fe 55.9	Co 58.9	Ni 58.7	Cu 63.6	Zn 65.4	Ga 69.7	Ge 72.6	As 74.9	Se 79.0	Br 79.9	Kr 83.8	37	38
37	Rb 85.5	Sr 87.6	Y 88.9	Zr 91.2	Nb 92.9	Mo 95.9	Tc 98.9	Ru 101	Rh 103	Pd 106	Ag 108	Cd 112	In 115	Sn 119	Sb 122	Te 128	I 127	Xe 131	55	56
87	Fr 223	Ra 226	Lu 175	Hf 179	Ta 181	W 184	Re 186	Os 190	Ir 192	Pt 195	Au 197	Hg 201	Tl 204	Pb 207	Bi 209	Po 210	At 210	Rn 222	81	82
89	Ac 227	Th 232	Pa 231	U 238	Np 237	Pu 239	Am 241	Cm 244	Bk 249	Cf 251	Es 252	Fm 257	Md 258	No 259	83	84	85	86	87	88
57	La 139	Ce 140	Pr 141	Nd 144	Pm 147	Sm 150	Eu 152	Gd 157	Tb 159	Dy 163	Ho 165	Er 167	Tm 169	Yb 173	89	90	91	92	93	94
Lanthanid e Series	57	58	59	60	61	62	63	64	65	66	67	68	69	70	89	90	91	92	93	94
Actinid e Series	89	90	91	92	93	94	95	96	97	98	99	100	101	102	118	119	120	121	122	123

