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ا	ج	د	ا	د	ب	ا	ج	ب	د	ج
٢٠	١٩	١٨	١٧	١٦	١٥	١٤	١٣	١٢	١١	س
ج	ب	د	ب	ا	ج	د	ا	ب	ج	ج
٣٠	٢٩	٢٨	٢٧	٢٦	٢٥	٢٤	٢٣	٢٢	٢١	س
ا	ب	د	ج	د	ا	ب	د	ج	ا	ج
٤٠	٣٩	٣٨	٣٧	٣٦	٣٥	٣٤	٣٣	٣٢	٣١	س
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H = 1	He = 4	C = 12	N = 14	O = 16	Mg = 24	S = 32	Cl = 35.5	K = 39	I = 126
$R = 0.0821 \text{ atm L mol}^{-1} \text{ K}^{-1} = 8.314 \text{ J mol}^{-1} \text{ K}^{-1}$						$N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$			
1.0 atm L = 101.325 J						1.0 atm = 760.0 mmHg = 101325 Pa			
$R_H = 109678 \text{ cm}^{-1}$									

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ا	ب	د	ج	د	ا	ب	د	ج	ا	ج
٤٠	٣٩	٣٨	٣٧	٣٦	٣٥	٣٤	٣٣	٣٢	٣١	س
د	ب	ج	ا	ج	ب	د	ج	ا	د	ج

		: 330 g	2 mol	.
KI (C ₂ H ₆ (CH ₄ (NH ₃ (
:	70.30% Cl	5.94% H	23.76% C	.
CHCl ₃ (	CH ₂ Cl ₂ (	CH ₃ Cl (	C ₂ H ₄ Cl ₂ (
:	O ₂	40 g	Mg	12 g .
2Mg + O ₂ → 2MgO				
:	16.8 g MgO			
48% (	84% (	67% (	76% (
:	90 g	H ₂ O	45 g	KCl .
m = 9.33 molal (	X _{KCl} = 0.5 (	KCl % = 70.73 (	X _{KCl} = 0.1 (
:				
.T n	(	.T n	(
.V P	(	.P T n	(
:	0.25 atm	10 L	0.25 mol	.
121.9 K (	394.8 °C (	394.8 K (	121.8 °C (
:	SO ₂ .			
H ₂ (	CO (	He (	CH ₄ (
5 L	9.33 atm	NH ₃	2 mol	.
(a = 4.17 atm mol ⁻² L ⁻² , b = 0.0371 L mol ⁻¹) :				
300 (	400 (	200 (	100 (
:_____ H ₂ O(g) → H ₂ O(l) :				
.	(.	(
(ΔH)	(	.	(
:	_____ .			
ΔH° = ΔU° + (RT) ^{Δng} (	ΔH° = ΔU° + Δn _g RT (	ΔH° = ΔU° - Δn _g RT (	ΔH° = ΔU° (

	(678 J)	(678 J)	.
		:	()
+ 678 (	(	- 1326 (	1356 (
<hr/>			
		:	.
	SO ₃ (g) → S(s) + 3/2O ₂ (g)	ΔH° = 395.2 kJ	
	2SO ₂ (g) + O ₂ (g) → 2SO ₃ (g)	ΔH° = -198.2 kJ	
	:	kJ	ΔH°
	S(s) + O ₂ (g) → SO ₂ (g)		
-592.2 (	+296.1 (	-296.1 (	+592.2 (
<hr/>			
	(k _f = 40 °C/molal)	(35 g)	(3 g) .
	:	(g/mol)	13.71°C
150 (ا	125 (ج	140 (ب	250 (د
<hr/>			
(P° _A = 0.056 atm)	(0.071 atm)	B A	.
	:	atm	P° _B 0.38 A
0.080 (ا	0.210 (ج	0.071 (ب	0.040 (د
<hr/>			
		:	_____ .
	.100 °C		(
			(
			(
			(
<hr/>			
1 atm	1.38×10 ⁻³ M	293K	.
740torr	0.21		
		:	
2.144×10 ⁻¹ (	1.38×10 ⁻³ (	2.82×10 ⁻³ (	2.82×10 ⁻⁴ (
<hr/>			
125 mL	(68000 g/mol)	63.48 g	.
		:	atm 25°C
0.0712 (	0.0135 (	0.1825 (	0.1636 (
<hr/>			
		:	.
	2H ₂ (g) + 2NO (g)→	N ₂ (g) + 2H ₂ O (l)	
		:	(NO)
N ₂	((
H ₂	((
<hr/>			

	:	s ⁻¹	(k)	.																				
((((
	:			.																				
((((
<hr/>																								
:	(s)	50%	6.71x 10 ⁻⁴ s ⁻¹	(.																				
	1590(1490 (429 (1033 (
<hr/>																								
A + B + 2C → products .																								
<table><tr><th>[A]M</th><th>[B]M</th><th>[C] M</th><th>Rate M/s</th></tr><tr><td>0.1</td><td>0.1</td><td>0.1</td><td>4.8 x 10⁻³</td></tr><tr><td>0.2</td><td>0.1</td><td>0.1</td><td>4.8 x 10⁻³</td></tr><tr><td>0.1</td><td>0.2</td><td>0.1</td><td>9.6 x 10⁻³</td></tr><tr><td>0.1</td><td>0.1</td><td>0.3</td><td>1.44 x 10⁻²</td></tr></table>					[A]M	[B]M	[C] M	Rate M/s	0.1	0.1	0.1	4.8 x 10 ⁻³	0.2	0.1	0.1	4.8 x 10 ⁻³	0.1	0.2	0.1	9.6 x 10 ⁻³	0.1	0.1	0.3	1.44 x 10 ⁻²
[A]M	[B]M	[C] M	Rate M/s																					
0.1	0.1	0.1	4.8 x 10 ⁻³																					
0.2	0.1	0.1	4.8 x 10 ⁻³																					
0.1	0.2	0.1	9.6 x 10 ⁻³																					
0.1	0.1	0.3	1.44 x 10 ⁻²																					
:																								
Rate = k[A][C] (Rate = k [B][C] (Rate = k[B][C] ² (Rate= k [A][B][C] (
<hr/>																								
(kJ/mol)	53°C	35°C		.																				
32.15 (13.40 (73.71 (3.18 (
<hr/>																								
A(g) ⇌ B(g)	K _c	(800 °C)	(8.1)	2A(g) ⇌ 2B(g) K _c .																				
:																								
16.4 (2.025 (4.05 (8.2 (
<hr/>																								
2 CO(g) + O ₂ (g) ⇌ 2 CO ₂ (g) ΔH° = -558 kJ :																								
:_____																								
. CO ₂ . (
T CO (
.CO ₂ O ₂ (
. CO ₂ (
<hr/>																								
:																								
K _C .																								
H ₂ (g) + F ₂ (g) ⇌ 2HF(g)																								
(mol L ⁻¹ (mol ⁻¹ L (mol ⁻² L ² (
<hr/>																								

		: OH ⁻		.
H ⁺ ((H ₂ (	H ₃ O ⁺ (
:	K _W	40 °C	6.69	_____ pH
4.15 × 10 ⁻¹⁴ (	1.00 × 10 ⁻¹⁴ (	2.88 × 10 ⁻¹⁴ (	5.25 × 10 ⁻¹¹ (
:	25°C	mol L ⁻¹	OH ⁻	4.2
6.3×10 ⁻¹¹ (	1.0×10 ⁻¹⁴ (	1.58×10 ⁻¹⁴ (	6.3×10 ⁻⁹ (
:	(CN ⁻)	(0.01 M HCN)	(pH = 5.7)	.
6.3×10 ⁻¹¹ (	1.9×10 ⁻¹⁰ (	1.6×10 ⁻⁴ (	2.5×10 ⁻⁵ (
:				.
	((
.	((
:	¹⁵ P	(<i>l</i> = 0)		.
15 (	12 (	9 (	6 (
:				.
16 (	4 (	1/4 (	1/16 (
:				.
n	<i>l</i>	m	s	
2	2	0	$\frac{3}{2}$	(
3	0	1	$\frac{1}{2}$	(
1	1	0	$\frac{1}{2}$	(
		2	$\frac{1}{2}$	(
:	(m = -2)			

(f (p (d (

: 6p, 4f, 4d, 6s .

4d > 6s > 4f > 6p (6p > 4f > 6s > 4d (6p > 6s > 4f > 4d (4f > 4d > 6s > 6p (

: ${}_{36}\text{X}$.

	(A)	p	(
	(A)	s	(
	(A)	P	(
	(B)	d	(

: $({}_{19}\text{K})$ $({}_{17}\text{Cl})$.

(

+1 (

+1 (

-2 (

n_2 $4.1 \times 10^{-5} \text{ cm}$.

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7 (4(6 (3 (

: _____ .

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. ($({}_6\text{C})$ $({}_{10}\text{Ne})$
