



H = 1, C = 12, N = 14, O = 16, Na = 23, Al = 27, S = 32, Cl = 35.5, Ca = 40.1, Fe = 56, Cu = 63.5, $N_A = 6.02 \times 10^{23}$ , $R = 0.0821 \text{ atm L mol}^{-1} \text{ K}^{-1} = 8.314 \text{ J mol}^{-1} \text{ K}^{-1}$
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- :
- : (H<sub>2</sub>CO<sub>2</sub>) 0.6 mol -1
- 7.22 × 10<sup>23</sup> (      1.2 × 10<sup>22</sup> (      3.61 × 10<sup>23</sup> (      6.02 × 10<sup>23</sup> (
- : Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> -2
- 70% (      15.8% (      31.6% (      100% (
- : 84.2% S    15.8% C      (      )      -3
- CS (      CS<sub>3</sub> (      CS<sub>2</sub> (      C<sub>2</sub>S (
- 150 g C<sub>3</sub>H<sub>8</sub>      30.0 g      -4
- :
- C<sub>3</sub>H<sub>8</sub>(g) + 5O<sub>2</sub>(g) → 3CO<sub>2</sub>(g) + 4H<sub>2</sub>O
- 60 g (      150 g (      30 g (      90 g (
- :      1.31 g CO<sub>2</sub>    0.53 g      -5
- CaCO<sub>3</sub>  $\xrightarrow{\Delta}$  CaO + CO<sub>2</sub>
- :
- 92% (      70% (      85% (      100% (
- : 0.1 M      2 L      NaCl      -6
- 23.4 g (      58.5 g (      11.7 g (      5.85 g (
- : 1.06 g mL<sup>-1</sup>      1.0 M      H<sub>4</sub>C<sub>2</sub>O<sub>2</sub>      -7
- 1.07 m (      1.05 m (      1.06 m (      1.0 m (

800 torr 80°C 2.7 L -8

4.50 ( 1.25 ( 4.22 ( 3.32 (  -9

: 1 atm 0°C CO CO<sub>2</sub>

1 : 0.65 ( 1 : 0.80 ( 1 : 0.45 ( 1 : 0.40 (

: 1.250 g/L -10

32 ( 44 ( 35 ( 28 (

800 torr 25°C 4.5 L -11

( ) (mol )

: 960 torr

0.025 ( 0.039 ( 0.052 ( 0.048 (

N<sub>2</sub> .5°C 15 atm N<sub>2</sub> 2.5 L -12

38.25 ( 28.28 ( 35.21 ( 46.06 (

T V A B -13

:A B

B ( B (

( B (

T<sub>2</sub> T<sub>1</sub>  $\sqrt{U_1^2}$  O<sub>2</sub> -14

T<sub>2</sub> =  $\frac{T_1}{2}$  ( T<sub>2</sub> =  $\sqrt{2}T_1$  ( T<sub>2</sub> = 4T<sub>1</sub> ( T<sub>2</sub> = 2T<sub>1</sub> (

25°C (1.5 atm) (1 L) -15

.20°C (1.2 atm) (3 L) (He)

: 25°C (3 L)

2.70 ( 1.72 ( 2.25 ( 1.15 (

27°C

57°C

-16

: g

.37°C

600 (

500 (

400 (

300 (



2.6 g

. $\Delta H_C = -1300$  kJ/mol

(C<sub>2</sub>H<sub>2</sub>)

-17

.( kJ )

260 (

130 (

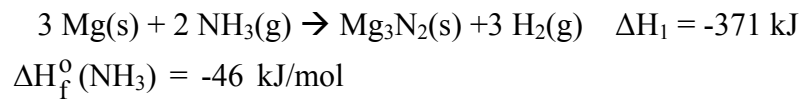
26 (

13 (



:

-18



: Mg<sub>3</sub>N<sub>2</sub>(s)

+279 (

-279 (

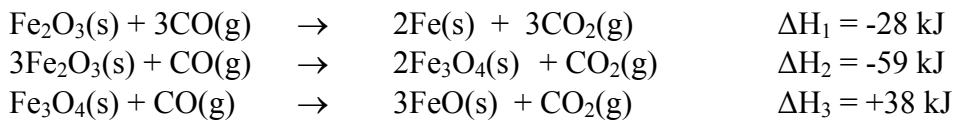
-463 (

-417 (

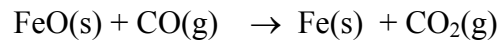


:

-19



:



:kJ

+16.8 (

+101.0 (

-101.0 (

-16.8 (



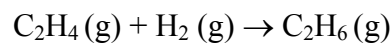
(kJ/mol )

C<sub>2</sub>H<sub>6</sub> C<sub>2</sub>H<sub>4</sub>

-20

:

-84.7 52.5



: (kJ/mol)

-137.2 (

-32.2 (

32.2 (

137.2 (



10	9	8	7	6	5	4	3	2	1	
20	19	18	17	16	15	14	13	12	11	

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