

LKPD

DIAGRAM SIKLUS & TINGKAT ENERGI KE 1

TULISKAN IDENTITAS ANDA

NAMA SISWA :

NO PRESENSI :

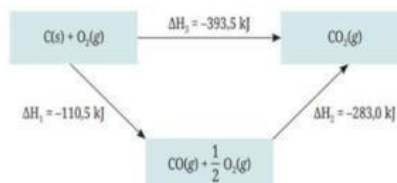
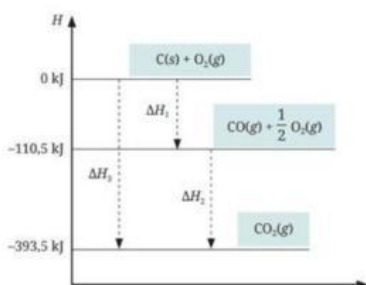
KELAS :

HUBUNGAN PERSAMAAN REAKSI – DIAGRAM SIKLUS – DIAGRAM TINGKAT ENERGI

Hubungan persamaan reaksi – diagram siklus – diagram tingkat energi

Persamaan reaksi

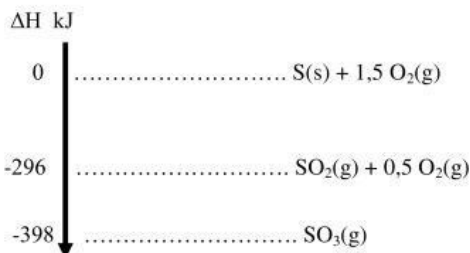
- 1) $C(s) + O_2(g) \rightarrow CO_2(g)$ $\Delta H = -393,5 \text{ kJ}$
- 2) $C(s) + O_2(g) \rightarrow CO(g) + \frac{1}{2}O_2(g)$ $\Delta H = -110,5 \text{ kJ}$
- 3) $CO(g) + \frac{1}{2}O_2(g) \rightarrow CO_2(g)$ $\Delta H = -283 \text{ kJ}$



Gambar 5.6 Diagram siklus pembentukan CO_2

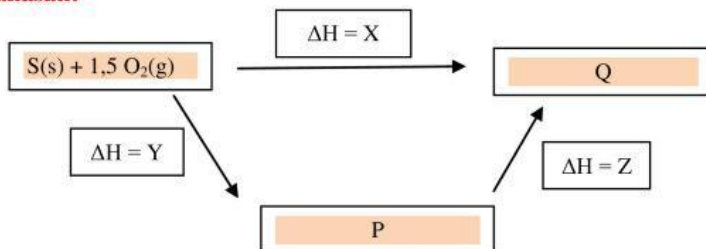
KASUS 1

Diketahui diagram tingkat energi



- a) Tuliskan persamaan reaksi yang ada dari diagram tingkat energi tersebut
- b) Gambarkan diagram siklus dari diagram tingkat energi tersebut
- c) Hitung perubahan entalpi untuk reaksi $2SO_2(g) + O_2(g) \rightarrow 2SO_3(g)$
- d) Hitung perubahan entalpi untuk reaksi $2SO_2(g) \rightarrow 2S(s) + 2O_2(g)$

Pembahasan:

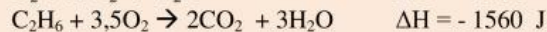
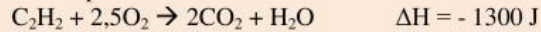


1. Nilai X adalah	5. Kotak P berisi:
A. -29	A. $SO_2(g) + 0,5 O_2(g)$
B. -102	B. $S(s) + 1,5 O_2(g)$
C. -398	C. $SO_2(g) + 0,5 O_2(g)$
	D. $SO_2(g)$
	E. $SO_3(g)$
2. Nilai Y adalah	6. Hitung perubahan entalpi untuk reaksi
A. -296	$2SO_2(g) + O_2(g) \rightarrow 2SO_3(g)$
B. -102	A. -204
C. -398	D. -592
	B. -296
	E. -796
	C. -398

3. Nilai Z adalah A. -296 B. -102 C. -398 D. +102 E. +296	7. Hitung perubahan entalpi untuk reaksi $2\text{SO}_2(\text{g}) \rightarrow 2\text{S}(\text{s}) + 2\text{O}_2(\text{g})$ A. +204 B. +296 C. +398 D. +592 E. +796
4. Kotak Q berisi: A. $\text{SO}_2(\text{g}) + 0,5 \text{O}_2(\text{g})$ B. $\text{S}(\text{s}) + 1,5 \text{O}_2(\text{g})$ C. $\text{SO}_2(\text{g}) + 0,5 \text{O}_2(\text{g})$ D. $\text{SO}_2(\text{g})$ E. $\text{SO}_3(\text{g})$	

KASUS 2

Diketahui persamaan termokimia:



Berdasarkan data tersebut

Soal 1

Hitung ΔH reaksi $\text{C}_2\text{H}_2 + 2\text{H}_2 \rightarrow \text{C}_2\text{H}_6$

- A. -156 J
B. -312 J
C. -478 J
D. 1486 J
E. 2860 J

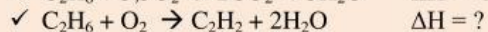
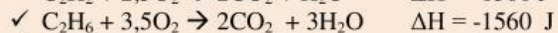
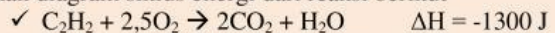
Soal 2

Hitung ΔH reaksi $\text{C}_2\text{H}_2 + 2\text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_6 + \text{O}_2$

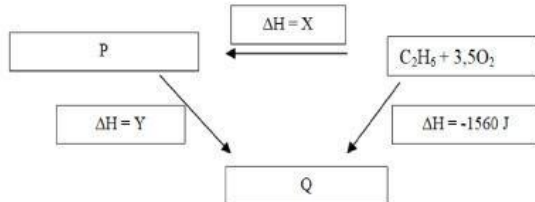
- A. -260
B. +260
C. -2860
D. +2860
E. -543

Soal 3

Gambarkan diagram siklus energi dari reaksi berikut



Lengkapi diagram siklus berikut



1) Nilai X adalah:

- A. -1300 J
B. -260 J
C. -130 J
D. +130 J
E. +260 J

2) Nilai Y adalah:

- A. -1300 J
B. -260 J
C. -130 J
D. +130 J
E. +260 J

3) Kotak P berisi:

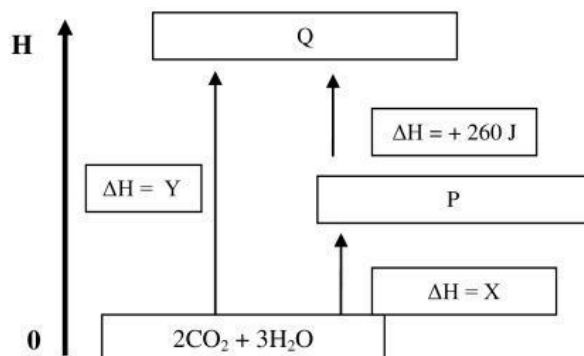
- A. $2\text{CO}_2 + 3\text{H}_2\text{O}$
B. $\text{CO}_2 + 1,5\text{H}_2\text{O}$
C. $\text{C}_2\text{H}_2 + 2,5\text{O}_2 + 2\text{H}_2\text{O}$
D. $\text{C}_2\text{H}_2 + 2,5\text{O}_2$
E. $2\text{CO}_2 + \text{H}_2\text{O}$

KASUS 3

Gambarkan diagram tingkat energi

- ✓ $\text{C}_2\text{H}_2 + 2,5\text{O}_2 \rightarrow 2\text{CO}_2 + \text{H}_2\text{O}$ $\Delta H = -1300 \text{ J}$
- ✓ $\text{C}_2\text{H}_6 + 3,5\text{O}_2 \rightarrow 2\text{CO}_2 + 3\text{H}_2\text{O}$ $\Delta H = -1560 \text{ J}$
- ✓ $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \text{C}_2\text{H}_2 + 2\text{H}_2\text{O}$ $\Delta H = ?$

Lengkapi diagram tingkat energi berikut

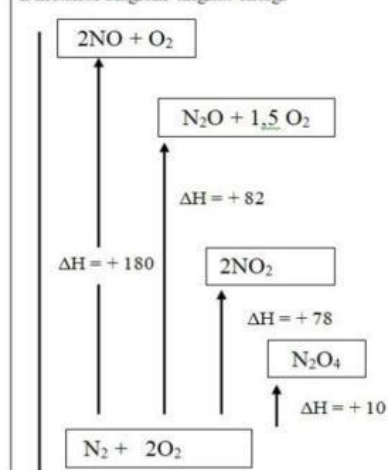


- | | |
|---|--|
| <p>1) Kotak P berisi</p> <p>A. $\text{C}_2\text{H}_6 + 3,5\text{O}_2$ D. $\text{C}_2\text{H}_2 + \text{O}_2$
 B. $\text{C}_2\text{H}_2 + 2,5\text{O}_2 + 2\text{H}_2\text{O}$ E. $\text{C}_2\text{H}_2 + \text{H}_2\text{O}$
 C. $\text{CO}_2 + \text{H}_2\text{O}$</p> <p>2) Kotak Q berisi</p> <p>A. $\text{C}_2\text{H}_6 + 3,5\text{O}_2$ D. $\text{C}_2\text{H}_2 + \text{O}_2$
 B. $\text{C}_2\text{H}_2 + 2,5\text{O}_2 + 2\text{H}_2\text{O}$ E. $\text{C}_2\text{H}_2 + \text{H}_2\text{O}$
 C. $\text{CO}_2 + \text{H}_2\text{O}$</p> | <p>3) Nilai X sebesar</p> <p>A. - 1560 J D. + 1560 J
 B. - 1300 J E. + 1300 J
 C. - 260 J</p> <p>4) Nilai Y sebesar ... (tidak perlu dikerjakan)</p> |
|---|--|

KASUS 4

Soal Nomor 6

Diketahui diagram tingkat energi



Hitung ΔH dari reaksi

- a. $\text{NO}_2 \rightarrow \text{NO} + \frac{1}{2} \text{O}_2$
- b. $2\text{NO} + \text{O}_2 \rightarrow \text{N}_2\text{O}_4$
- c. $\text{N}_2\text{O} + 1,5 \text{O}_2 \rightarrow \text{N}_2\text{O}_4$
- d. $6\text{NO}_2 \rightarrow 2\text{N}_2\text{O} + \text{N}_2\text{O}_4 + 3\text{O}_2$
- e. $3\text{N}_2\text{O} + 2,5 \text{O}_2 \rightarrow \text{N}_2\text{O}_4 + 4\text{NO}$

PERHATIKAN SAAT FINISH

Pilih Email my answer to my teacher

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Check my answers



Email my answers to my teacher

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Enter you full name : **Tuliskan no presensi dan nama lengkap anda**
Email Guru : **farqim2materi@gmail.com**

Enter your full name: *

Group/level *

School subject *

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