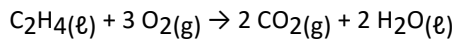
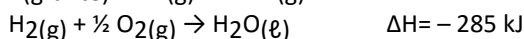
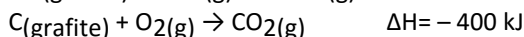
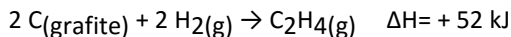


Lista de Exercícios – Termoquímica II

1. (AQ) Calcule o calor da reação:

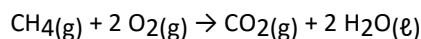


Dadas as equações termoquímicas:

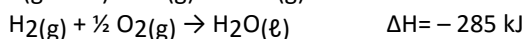
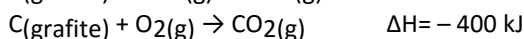
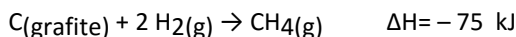


- a) - 737 kJ b) - 1422 kJ c) - 633 kJ
 d) - 711 kJ e) - 1318 kJ

2. (AQ) Calcule o calor da reação:

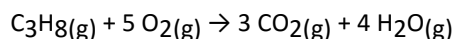


Dadas as equações termoquímicas:

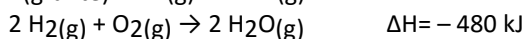
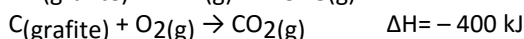
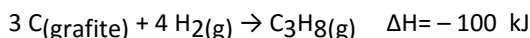


- a) - 760 kJ b) - 610 kJ c) - 895 kJ
 d) - 1045 kJ e) - 1010 kJ

3. (AQ) Calcule o calor da reação:

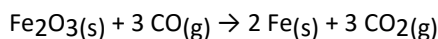


Dadas as equações termoquímicas:

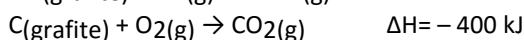
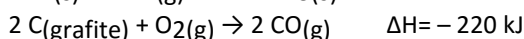
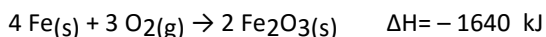


- a) - 2060 kJ b) - 740 kJ c) - 2260 kJ
 d) - 540 kJ e) - 2460 kJ

4. (AQ) Calcule o calor da reação:

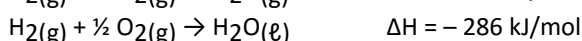
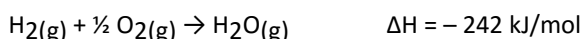


Dadas as equações termoquímicas:



- a) - 2260 kJ b) - 1020 kJ c) - 3170 kJ
 d) - 280 kJ e) - 50 kJ

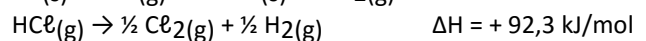
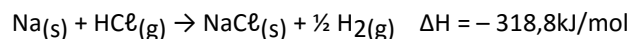
5. (AQ) A partir das equações termoquímicas:



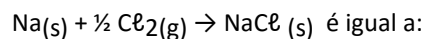
é possível prever que na transformação de 2,0 mols de água líquida em vapor d'água haverá

- a) liberação de 44 kJ b) absorção de 44 kJ
 c) liberação de 88 kJ d) absorção de 88 kJ
 e) liberação de 99 kJ

6. (AQ) Sejam dadas as seguintes equações termoquímicas:

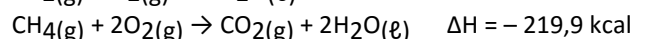
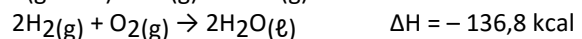
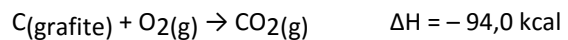


A variação de entalpia (ΔH) para a reação:

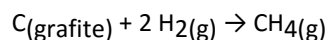


- a) - 411,1 kJ b) - 226,5 kJ c) + 411,1 kJ
 d) + 226,5 kJ e) - 822,2 kJ

7. (AQ) Dadas as equações termoquímicas:

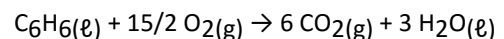


determine o calor de formação do metano

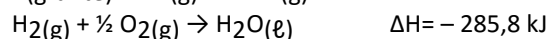
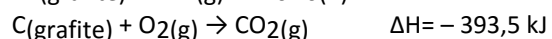
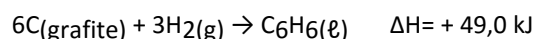


- a) + 17,9 kcal. b) - 17,9 kcal. c) - 10,9 kcal.
 d) + 177,10 kcal. e) - 177,10 kcal.

8. (AQ) Quando o benzeno queima na presença de excesso de oxigênio, a quantidade de calor transferida à pressão constante está associada à reação:



O calor transferido nesta reação é denominado calor de combustão. Considere as reações:

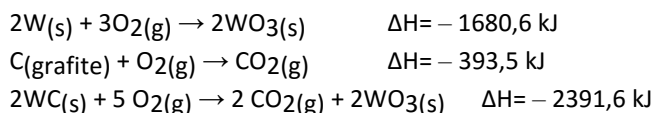


O calor de combustão do benzeno, em kJ, será:

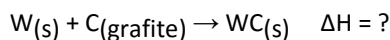
- a) 3267,4 b) 2695,8 c) - 1544,9
 d) - 3267,4 e) - 2695,8

9. (Ufrgs) O carbeto de tungstênio, WC, é uma substância muito dura e, por esta razão, é utilizada na fabricação de vários tipos de ferramentas. A variação de entalpia da reação de formação do carbeto de tungstênio a partir dos elementos C(grafite) e W(s) é difícil de ser medida diretamente, pois a reação ocorre a 1400°C. No entanto, pode-se medir com

facilidade os calores de combustão dos elementos C(grafite), W(s) e do carbeto de tungstênio, WC(s):



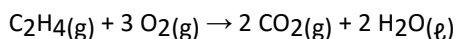
Pode-se, então, calcular o valor da entalpia da reação abaixo e concluir se a mesma é endotérmica ou exotérmica:



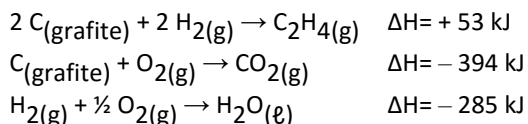
A qual alternativa corresponde o valor de ΔH da reação?

- a) $\Delta H = -878,3 \text{ kJ}$ b) $\Delta H = -317,5 \text{ kJ}$
 c) $\Delta H = -38,0 \text{ kJ}$ d) $\Delta H = +38,0 \text{ kJ}$
 e) $\Delta H = +317,5 \text{ kJ}$

10. (AQ) Quando o etileno queima na presença de excesso de oxigênio, a quantidade de calor transferida à pressão constante está associada à reação:



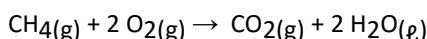
O calor transferido nesta reação é denominado calor de combustão. Considere as reações:



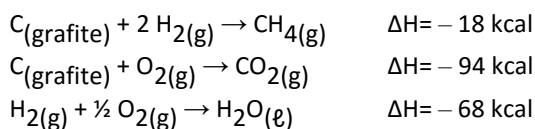
Qual o calor de combustão de um mol de etileno?

- a) $-705,5 \text{ kJ}$ b) -1411 kJ c) $-2116,5 \text{ kJ}$
 d) -2822 kJ e) -4233 kJ

11. (AQ) Calcule o calor da reação abaixo:

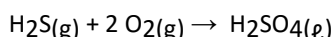


Considere as reações:

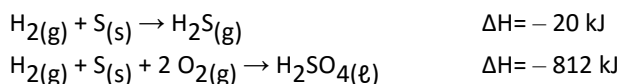


- a) -212 kcal b) -106 kcal c) $+106 \text{ kcal}$
 d) $+212 \text{ kcal}$ e) -53 kcal

12. (AQ) Calcule o calor da reação abaixo:

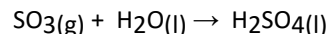


Considere as reações:

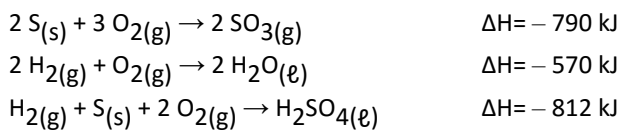


- a) $+792 \text{ kJ}$ b) -792 kJ c) $+39 \text{ kJ}$
 d) -39 kJ e) -68 kJ

13. (AQ) Calcule o calor da reação abaixo:

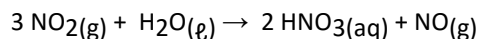


Considere as reações:

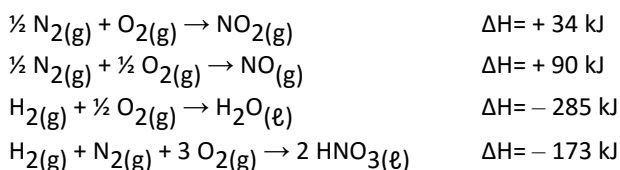


- a) $+66 \text{ kJ}$ b) -264 kJ c) $+264 \text{ kJ}$
 d) -132 kJ e) $+132 \text{ kJ}$

14. (AQ) Calcule o calor da reação abaixo:

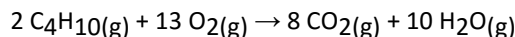


Considere as reações:

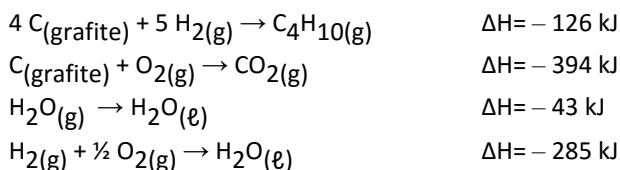


- a) $+50 \text{ kJ}$ b) -200 kJ c) $+200 \text{ kJ}$
 d) -100 kJ e) $+100 \text{ kJ}$

15. (AQ) Calcule o calor da reação abaixo:

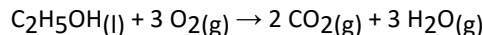


O calor transferido nesta reação é denominado calor de combustão. Considere as reações:

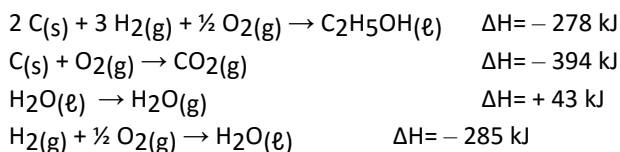


- a) -2660 kJ b) $+2660 \text{ kJ}$ c) -5320 kJ
 d) $+5320 \text{ kJ}$ e) -11640 kJ

16. (AQ) Dada a reação abaixo:



O calor transferido nesta reação é denominado calor de combustão. Considere as reações:



Calcule o calor envolvido na combustão completa de 115 gramas de etanol. Dados: H = 1u, C = 12u, O = 16u.

- a) -3090 kJ b) $+3090 \text{ kJ}$ c) -6180 kJ
 d) $+6180 \text{ kJ}$ e) -9270 kJ

GABARITO:

1.[B] 2.[C] 3.[A] 4.[E] 5.[B] 6.[A] 7.[C] 8.[D] 9.[C] 10.[B] 11.[A] 12.[B] 13.[D] 14.[E] 15.[C] 16.[A]