

GENERAL CHEMISTRY II / جميع الشعب

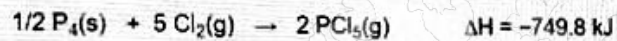
Question 10

Not yet answered

Marked out of 1.5

Flag question

Calculate the standard enthalpy of formation of $\text{PCl}_5(\text{g})$ in kJ/mol



Note: most stable form of P element is $\text{P}_4(\text{s})$.

Select one:

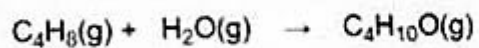
- a. -150.0
- b. -187.3
- c. -729.8
- d. 0.0
- e. -374.9

[Previous page](#)

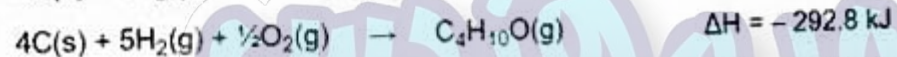
[Finish attempt ...](#)

AL CHEMISTRY I/ جميع الشعب

What is the enthalpy (in kJ) of the following reaction at constant pressure?



Use the following thermochemical equations:



Select one:

- a. -783.5
- b. +197.9
- c. -183.7
- d. -527.5
- e. -43.9

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Question 8

Not yet answered

Marked out of 5

Flag question

Calculate the rms speed (in m/s) of He (molar mass = 4.0 g/mol) molecules in a cylinder at 27 °C and 8.7 atm.

$R = 0.082 \text{ atm}\cdot\text{L}/\text{mol}\cdot\text{K}$ or $8.314 \text{ kg}\cdot\text{m}^2/\text{s}^2\cdot\text{K}\cdot\text{mol}$

Select one:

- a. 42.8
- b. 12.8
- c. 136.0
- d. 1367.7
- e. 406.0

2020

Next page

Previous page

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Question 2

Not yet answered

Marked out of 1.5

Flag question

The volume of certain amount of nitrogen at 23°C and 746 mmHg is 10.1 cm^3 . What is the volume of nitrogen at 20°C and 790 mmHg ?

Select one:

- a. 9.44
- b. 8.29
- c. 10.8
- d. 12.3
- e. 0.935

[Previous page](#)[Next page](#)

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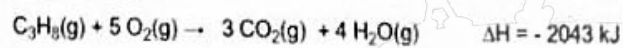
Question 5

Not yet answered

Marked out of 1.5

Flag question

Use the following to calculate the mass of $\text{CO}_2(\text{g})$ would be obtained if the reaction released 369 kJ of heat. Molar mass of $\text{CO}_2 = 44.0 \text{ g/mol}$



Select one:

- a. 244 g
- b. 44.0 g
- c. 23.8 g
- d. 7.95 g
- e. 2.65 g

Previous page

Next page

Quiz na

1

2

10

Finish at

Time left

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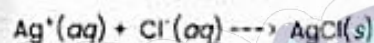
Question 10

Not yet
answered

Marked out of
2.0

Flag
question

How many milliliters of 0.165 M aluminum chloride (AlCl_3) are required to react completely with 35.0 mL of 0.210 M silver nitrate (AgNO_3)? The net ionic equation is:



Select one:

- 19.1 mL
- 27.6 mL
- 14.8 mL
- 31.8 mL
- 23.3 mL

[Previous page](#)[Next page](#)

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[Home](#)[My courses](#)[GENERAL CHEMISTRY I / جميع الشعب](#)[Chem. 101 Exams](#)[Chem. 101 Final Exam](#)

Question 23

Not yet answered

Marked out of 2.0

Flag question

What is the potential energy value (in kJ/mol) obtained via combining Rb^+ ions and Br^- ions to form ionic bonds?

$$k = 8.99 \times 10^8 \text{ J.m/C}^2 \quad e = 1.6 \times 10^{-19} \text{ C}$$

$$\text{Avogadro No.} = 6.022 \times 10^{23}$$

The distance between ions = 0.250 nm

Select one:

- 513
- 693
- 554
- 462
- 396

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Question 1

Not yet answered

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Flag question

In a constant volume calorimeter, a 0.977 g of pentane (C_5H_{12}) are burned, the calorimeter temperature rises from 25.00 °C to 27.29 °C. The heat capacity of the calorimeter and its contents was 20.7 kJ/ °C.

What is the enthalpy of combustion for one mole of pentane? Molar mass of C_5H_{12} = 72.15 g/mol

Select one:

- a. - 3501.0
- b. - 4.000 x 10⁴
- c. - 0.6414
- d. - 47.40
- e. - 564.9

Next page

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Question 6

Not yet answered

Marked out of 1.5

Flag question

A 0.590 gram of volatile liquid was vaporized at 96 °C and expanded in 200 ml flask at 800 mmHg. Calculate the molar mass of this liquid in g/mol.

$R = 0.082 \text{ atm L/mol.K}$ or $8.314 \text{ kg}\cdot\text{m}^2/\text{s}^2\cdot\text{K}\cdot\text{mol}$

Select one:

- a. 84.9
- b. 78.1
- c. 60.7
- d. 68.1
- e. 73.0

Quiz navigation

1 2 3

10

Finish attempt

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Previous page

Next page

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Chem. 101 Final Exam

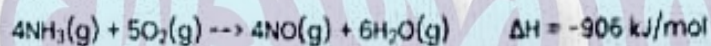
Question 9

Not yet answered

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Flag question

Calculate the change in internal energy (kJ/mol) when 4 moles of $\text{NH}_3(\text{g})$ are converted to 4 moles of $\text{NO}(\text{g})$ at 1 atm. and 25°C .



$R = 0.0821 \text{ Latm/mol.K}$ or 8.314 J/K.mol

Select one:

- 908.48
- 909.31
- 910.97
- 910.14
- 911.80

If 954.0 mL of nitrogen gas, measured at 488.9 mmHg and 22.3°C, reacts with excess iodine according to the following reaction, what mass of nitrogen triiodide (molar mass= 394.72) is produced? (1 atm= 760 mmHg and K= °C + 273)



Select one:

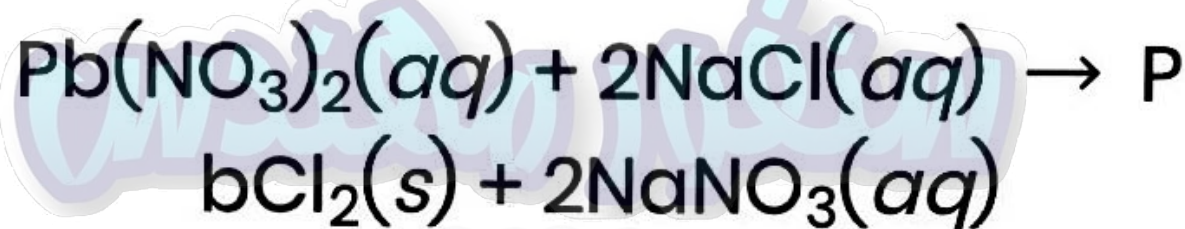
- a. 13.30 g
- b. 4.33 g
- c. 6.65 g
- d. 20.0 g
- e. 3.33 g

Which of the following gases has the greatest density at 2.5 atm and 25°C? (Molar masses for C= 12.0, H= 1.01, N= 14.0, O= 16.0, S=32.1, and F= 19.0 g/mol)

Select one:

- a. NF_3
- b. C_6H_{14}
- c. C_7H_8
- d. N_2O
- e. CS_2

When 27.6 mL of 0.870 *M* lead(II) nitrate reacts with 90.0 mL of 0.777 *M* sodium chloride, 0.279 kJ of heat is released at constant pressure. What is ΔH° for this reaction?



Select one:

- a. 69.7 kJ
- b. 11.6 kJ
- c. 17.4 kJ
- d. -11.6 kJ
- e. -69.7 kJ

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Question 24

Not yet answered

Marked out of 2.0

Flag question

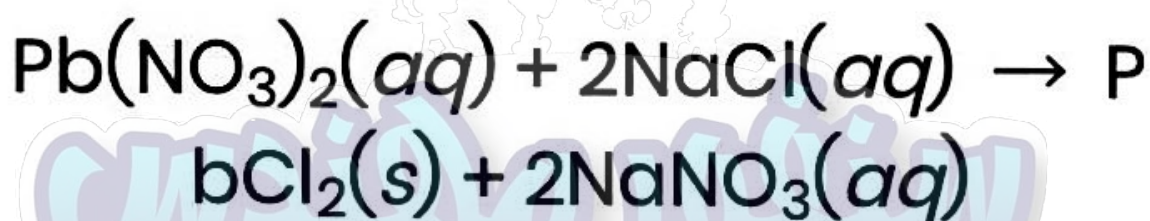
The average speed of nitrogen gas (N_2 , 28 g/mol) that effuses at $30.0^\circ C$ is 700 m/s. The average speed of which butene gas (C_4H_8 , 56 g/mol) effuses at the same temperature is:

Select one:

- 396 m/s
- 481 m/s
- 339 m/s
- 495 m/s
- 354 m/s

2020

When 27.6 mL of 0.870 *M* lead(II) nitrate reacts with 90.0 mL of 0.777 *M* sodium chloride, 0.279 kJ of heat is released at constant pressure. What is ΔH° for this reaction?



Select one:

- a. 69.7 kJ
- b. 11.6 kJ
- c. 17.4 kJ
- d. -11.6 kJ
- e. -69.7 kJ

Question 11

Not yet answered

Marked out of 10

Flag question

What is the standard enthalpy of formation of liquid *n*-butanol, $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$?



| Substance | ΔH_f (kJ/mol) |
|-------------------------|-----------------------|
| $\text{CO}_2(g)$ | -393.5 |
| $\text{H}_2\text{O}(l)$ | -285.8 |

Select one:

- a. -528 kJ
- b. -328 kJ
- c. -428 kJ
- d. -753 kJ
- e. -603 kJ

2020

What is the specific heat (in $J/g\ ^\circ C$) of a metal if it takes 465 J to raise the temperature of a 50.0 g sample of the element by 5.00 $^\circ C$?

- (a) 0.444
- (b) 1.86
- (c) 1.07
- (d) 2.22
- (e) 0.333

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R

Which one of the following substances is a strong electrolyte?

- a) NH_3
- b) CH_3OH
- c) LiOH
- d) $\text{C}_2\text{H}_5\text{O}_2$
- e) CH_3COOH

2020

Consider the following reaction:



The reducing agent in this reaction is:

- (a) Ca
- (b) O₂
- (c) CaO
- (d) O²⁻
- (e) Ca²⁺

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2020

Consider the following reaction:



The correct net ionic equation is:



Given the following bond energies:

| Bond | Bond Energy (kJ/mol) |
|-------|----------------------|
| Br-Br | 183 |
| C≡C | 837 |
| C=C | 347 |
| C-Br | 276 |
| C-H | 414 |

Calculate ΔH° for the reaction:



- (a) -228 kJ/mol
- (b) -248 kJ/mol
- (c) -268 kJ/mol
- (d) -288 kJ/mol
- (e) -308 kJ/mol

Which one of the following substances is a strong electrolyte?

- a) NH_3
- b) CH_3OH
- c) LiOH
- d) $\text{C}_2\text{H}_5\text{O}_2$
- e) CH_3COOH



Given the following thermochemical equations:



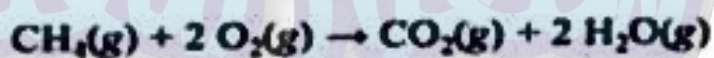
Calculate the standard enthalpy change, ΔH° , (in kJ/mol) of the reaction:



- (a) -176
- (b) -199
- (c) -222
- (d) -107
- (e) -60.7

2020

Given the following standard enthalpies of formation: $\Delta H^\circ_f[\text{CO}_2(\text{g})] = -393.5$ kJ/mol, $\Delta H^\circ_f[\text{CH}_4(\text{g})] = -483.5$ kJ/mol and $\Delta H^\circ_f[\text{H}_2\text{O}(\text{g})] = -241.8$ kJ/mol. Calculate the heat released (in kJ) for the reaction of one mole of O_2 according to this reaction:



- (a) -271.8
- (b) -246.8
- (c) -231.8
- (d) -216.8
- (e) -196.8

2020

**mL of AgNO_3 solution 40.0
($\text{AgNO}_3 = 169.9 \text{ g/mol}$) of
unknown concentration was
found to give 1.50 grams of
 AgCl (143.4 g/mol) upon
addition of excess sodium
chloride. What is the molarity
of the original AgNO_3 solution**

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- a. 0.174
- b. 0.209
- c. 0.523
- d. 0.349
- e. 0.262

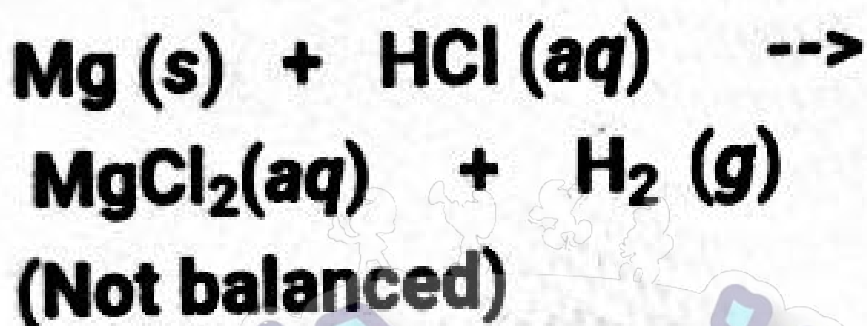
Flag question

How many grams Na (23.0 g/mol) are present in 5.00 mL of 0.10 M solution Na_2SO_4 (142.1 g/mol) ?

Select one:

- a. 0.032
- b. 0.051
- c. 0.023
- d. 0.060
- e. 0.041

What is the total number of electrons involved in the following oxidation-reduction reaction?



Select one:

- a. 10
- b. 8
- c. 2
- d. 4
- e. 6

[Clear my choice](#)

How many grams of NaOH (molar mass = 40.0 g/ mol) are required to prepare 300.0 mL of 0.150 M solution?

Select one:

- a. 0.60
- b. 1.80
- c. 1.20
- d. 2.40
- e. 3.00

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Question 9

Not yet answered

Marked out of 1.67

Flag question

Which of the following pairs is: strong acid / weak base ?

Select one:

- a. $\text{HC}_2\text{H}_3\text{O}_2 / \text{KOH}$
- b. HCl / NH_3
- c. HCN / NaOH
- d. $\text{HNO}_3 / \text{Sr}(\text{OH})_2$
- e. $\text{HBr} / \text{Ca}(\text{OH})_2$

[Previous page](#)

Emoji brush

Eraser

What is the oxidation number of
Mn in MnO_4^- ?

Arrow brush

Select one:

- a. +3
- b. +4
- c. +7
- d. +6
- e. +5

2020

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Question 6

Not yet answered

Marked out of 1.67

Flag question

30.0 mL of AgNO_3 solution ($\text{AgNO}_3 = 169.9 \text{ g/mol}$) of unknown concentration was found to give 1.50 grams of AgCl (143.4 g/mol) upon addition of excess sodium chloride. What is the molarity of the original AgNO_3 solution?

Select one:

- a. 0.209
- b. 0.174
- c. 0.349
- d. 0.523
- e. 0.262

2020

Next page

Previous page

How many moles of NH₃ will be produced from the reaction of 0.40 mol N₂ with 1.0 mol of H₂ according to the following equation?



سؤال من امتحان

Select one:

2020

- a. 0.67
- b. 0.80
- c. 1.0
- d. 1.67
- e. 1.33

Question 8

Not yet answered

Marked out of 1.63

Flag question

What is the oxidation number of Br in BrO_4^- ?

Select one:

- a. +6
- b. +4
- c. +5
- d. +3
- e. +7

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2020

Previous page

Question 15

Not yet answered

Marked out of 1.00

🚩 Flag question

30 mL of 0.10 M NaOH is required to neutralize 10 mL of H₃PO₄. What is the molarity of the H₃PO₄ ?

2020

Select one:

- a. 0.3 M
- b. 0.9 M
- c. 0.1 M
- d. 0,15 M
- e. none of the above

A 280 ml sample of a 0.275 M solution of nonvolatile solute is left on a hot plate over night , the next day, the solution has 1.10 M. What is the volume of the solvent that has been evaporated from the original solution?

Select one:

- a. 58.0 ml
- b. 77.0 ml
- c. 172 ml
- d. 210 ml
- e. more information are needed since the solute may also evaporate

What is the potential energy value (in kJ/mol) obtained via combining K^+ ions and F^- ions to form ionic bonds?

$$k = 8.99 \times 10^9 \text{ J.m/C}^2 \quad e = 1.6 \times 10^{-19} \text{ C}$$

$$\text{Avogadro No.} = 6.022 \times 10^{23}$$

The distance between ions = 0.200 nm

2020

Select one:

396

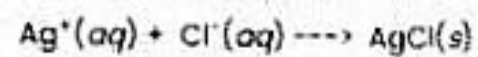
513

462

554

693

How many milliliters of 0.165 M aluminum chloride (AlCl_3) are required to react completely with 35.0 mL of 0.210 M silver nitrate (AgNO_3)? The net ionic equation is:



Select one:

- 19.1 mL
- 27.6 mL
- 14.8 mL
- 31.8 mL
- 23.3 mL

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2020

How many grams of $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ (280.86 g/mol) would be required to prepare 600 mL of a solution that is 0.300 M in $\text{NiSO}_4(aq)$ (154.76 g/mol)?

Select one:

- 84.3 g
- 67.4 g
- 50.6 g
- 59.0 g
- 42.1 g

2020

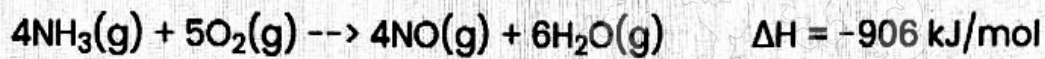
The average speed of nitrogen gas (N_2 , 28 g/mol) that effuses at 30.0 °C is 680 m/s. The average speed at which butene gas (C_4H_8 , 56 g/mol) effuses at the same temperature is:

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Select one:

- 2020
- 339 m/s
 - 354 m/s
 - 495 m/s
 - 481 m/s
 - 396 m/s

Calculate the change in internal energy (kJ/mol) when 4 moles of $\text{NH}_3(\text{g})$ are converted to 4 moles of $\text{NO}(\text{g})$ at 4 atm. and 325°C .



$R = 0.0821 \text{ Latm/mol.K}$ or $8.314 \text{ J/K}\cdot\text{mol}$

Select one:

- 911.80
- 909.31
- 910.97
- 910.14
- 908.48

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2020