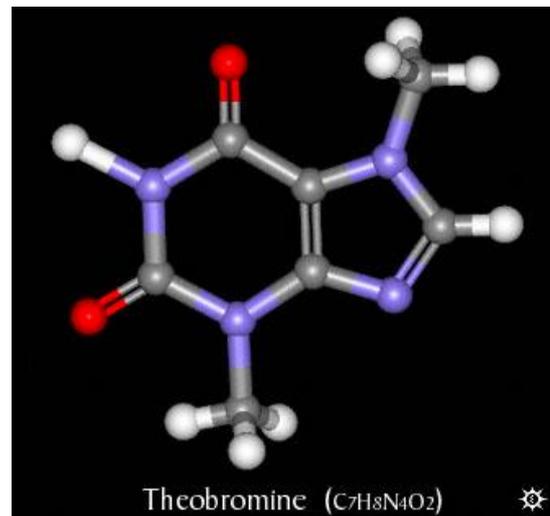
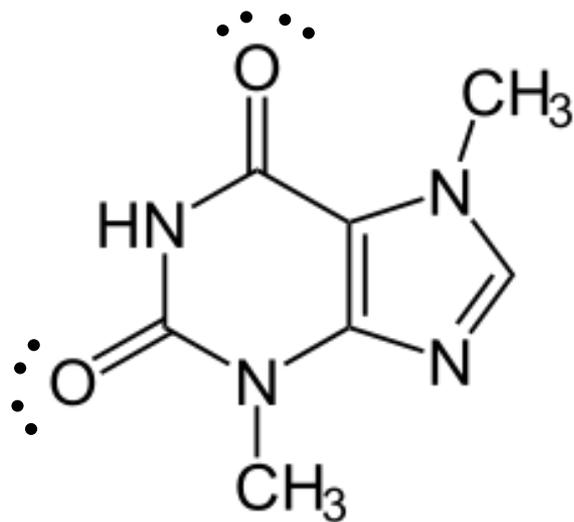
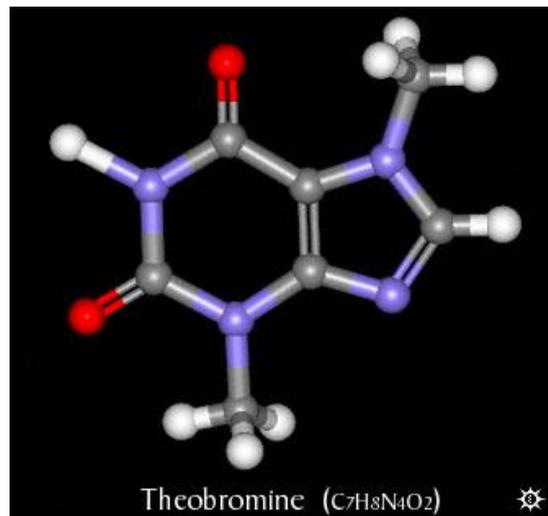
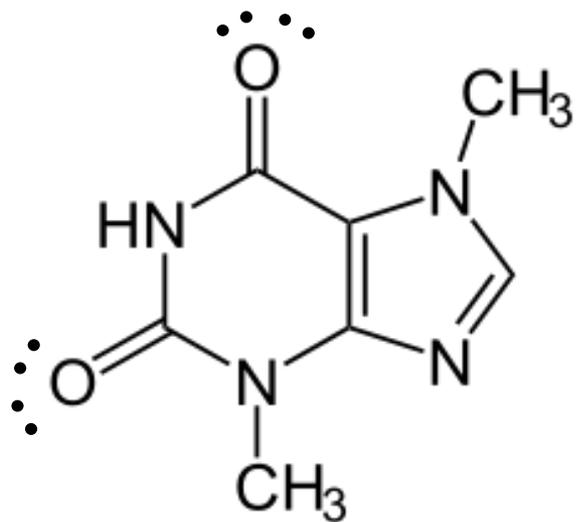


What is the hybridization of the O atoms below?



1. The O atoms are not hybridized.
2. sp
3. sp²
4. sp³

What is the hybridization of the O atoms below?



8%

1. The O atoms are not hybridized.

8%

2. sp

79%



3. sp²

5%

4. sp³

If bonds are stronger in the products than in the reactants, ΔH is:

1. negative (exothermic rxn)
2. positive (exothermic rxn)
3. negative (endothermic rxn)
4. positive (endothermic rxn)

If bonds are stronger in the products than in the reactants, ΔH is:

66% ✓ 1. negative (exothermic rxn)

8% 2. positive (exothermic rxn)

15% 3. negative (endothermic rxn)

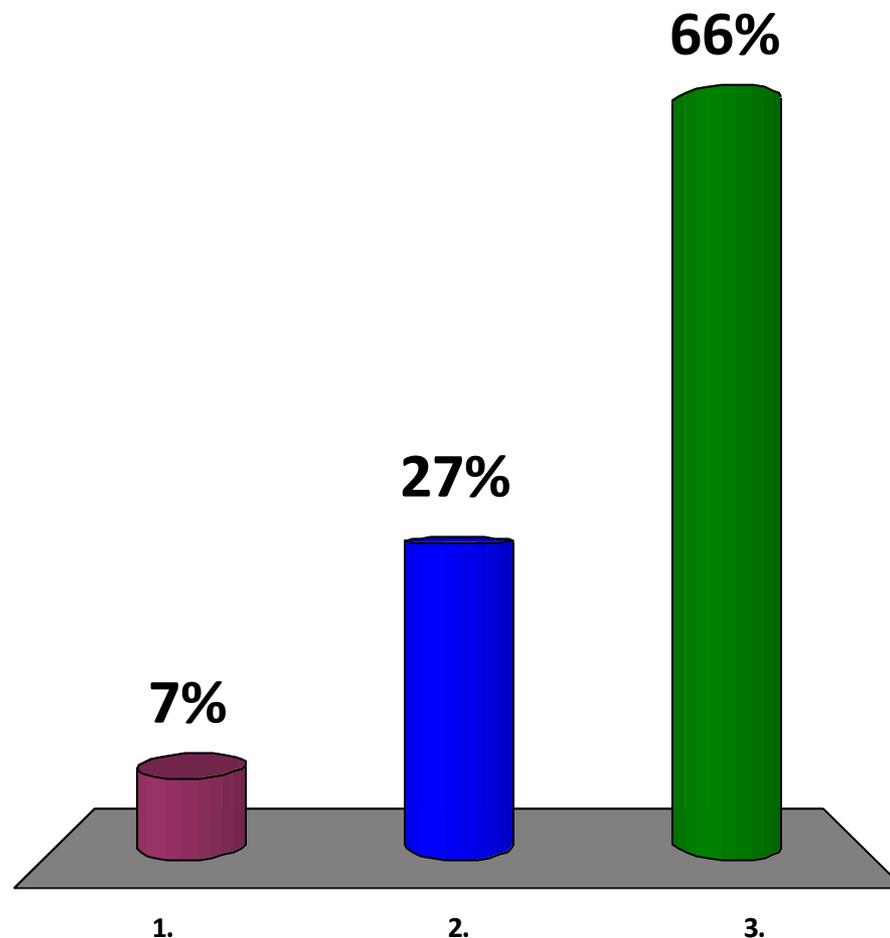
11% 4. positive (endothermic rxn)

Which answer has the correct number of significant figures?

1. - 4.48 kJ/mol
2. - 4.5 kJ/mol
3. - 4. kJ/mol

Which answer has the correct number of significant figures?

1. - 4.48 kJ/mol
2. - 4.5 kJ/mol
3. - 4. kJ/mol



The oxidation of glucose
(ΔH° negative, ΔS° positive)

1. is spontaneous at all temperatures.
2. is non-spontaneous at all temperatures.
3. Can be spontaneous OR non-spontaneous depending on the temperature.

(Hint: $\Delta G = \Delta H - T\Delta S$)

The oxidation of glucose (ΔH° negative, ΔS° positive)

- 68% 😊 1. is spontaneous at all temperatures.
- 4% 2. is non-spontaneous at all temperatures.
- 29% 3. Can be spontaneous OR non-spontaneous depending on the temperature.

(Hint: $\Delta G = \Delta H - T\Delta S$)



ΔS° is predicted to be

1. negative
2. positive
3. zero
4. negative or positive depending on temperature



ΔS° is predicted to be

9% 1. negative

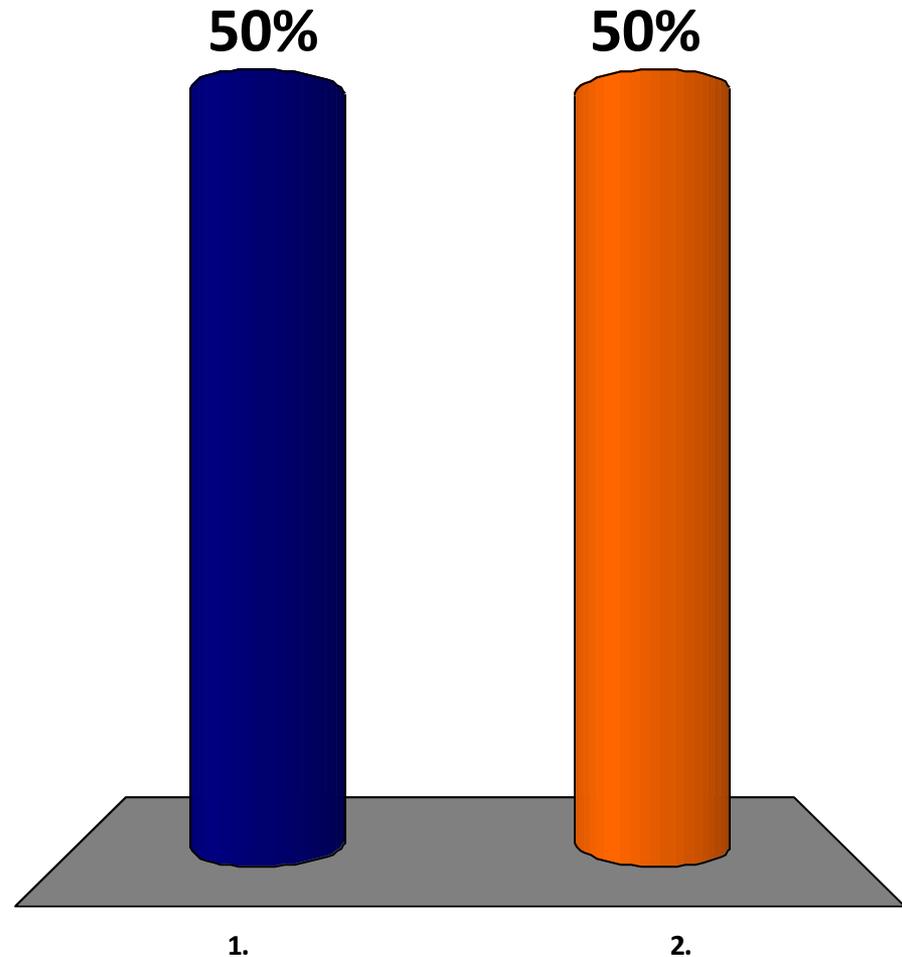
91% 2.  positive

0% 3. zero

0% 4. negative or positive depending on temperature

If $\Delta G_f^\circ < 0$, a compound is
_____ relative to its elements.

- 😊 1. stable
- 2. unstable



MIT OpenCourseWare
<http://ocw.mit.edu>

5.111 Principles of Chemical Science
Fall 2014

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.