CHEM1102 2010-J-2 June 2010

• Which of the following are allotropes? Explain your answer.

$$^{16}\mathrm{O}, \, ^{18}\mathrm{O}, \, \mathrm{O}_{2}, \, \mathrm{O}_{3}, \, \mathrm{O}^{\text{-}}, \, \mathrm{O}^{2\text{--}}, \, \mathrm{O}_{2}^{\text{--}}, \, \mathrm{O}_{2}^{2\text{--}}, \, \mathrm{H}_{2}\mathrm{O}, \, \mathrm{H}_{2}\mathrm{S}, \, \mathrm{H}_{2}\mathrm{O}_{2}.$$

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Allotropes are different structural forms of an element.

The only allotropes in the list are  $O_2$  and  $O_3$ .