

Chemistry 1B-AL
Homework #5 (#36-#45, S9-S12)

Required

To see your professor try his hand at demonstrating Marvin Sketch watch video06a [“Marvin Sketch Tutorial”](#)



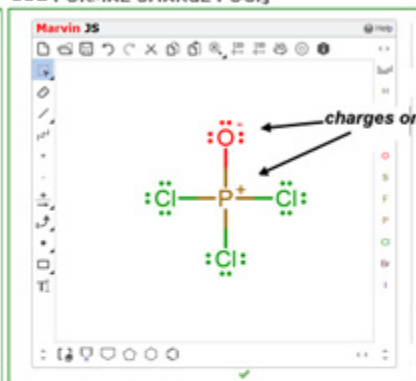
36. Zumdahl #13.58 (a and c)

[Note that problems 36, 39, and 40 refer to structures for some of the same molecules and ions. Here in #40 you should just enter the **octet** structure corresponding to the appropriate number of valence electrons for the molecule or molecular ion; BUT NOT CHARGES ON ATOMS; they come in problem 43]

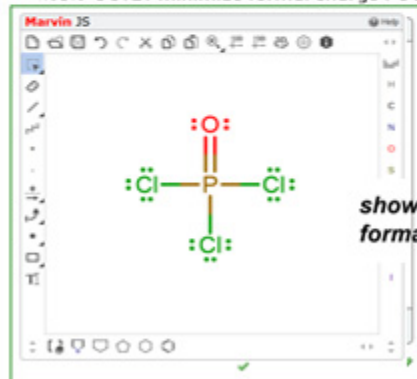
36a OCTET POCl_3



39a FORMAL CHARGE POCl_3



40a NON-OCTET minimize formal charge POCl_3



show any non-zero formal charges

Submit for Testing

37. Zumdahl #13.60 (a)

This problem

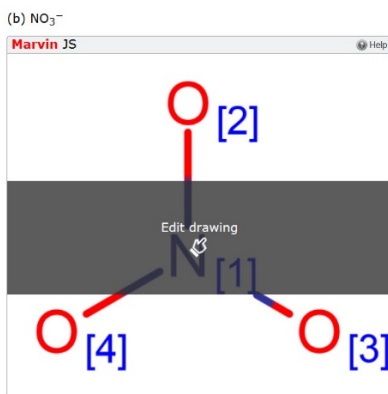
Draw Lewis structures for the following. Show all resonance structures, where applicable. (Copy and paste the given template as many times as necessary. Assign atomic charges where appropriate.)

is graded 'harshly' by WebAssign. To get the structures graded correctly, you must:

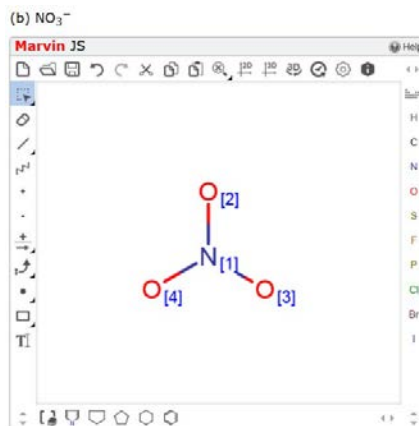
- Include ALL possible resonance structures
- Include any formal charges on the appropriate atoms

here are some examples of correct and incorrect solutions for NO_3^-

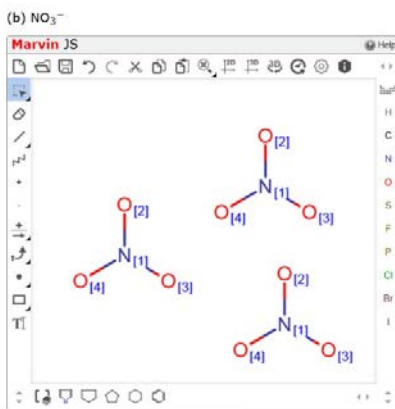
i. QUESTION AS APPEARING IN WEBASSIGN HW



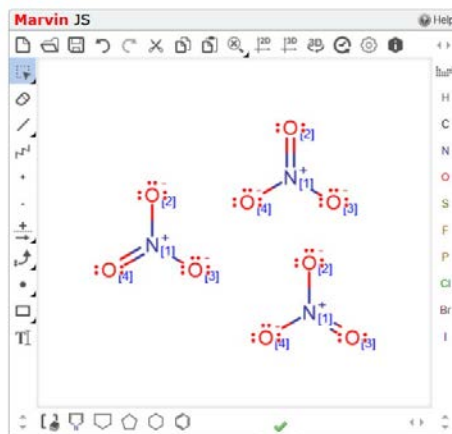
ii. STUDENT OPENS MARVINJS



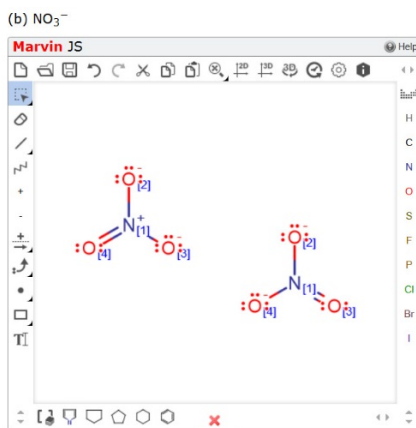
- iii. STUDENT DUPLICATES STRUCTURES (SELECT ALL DUPLICATE)
 (SELECT ALL + SHIFT TO DRAG (TRANSLATE) STRUCTURE)



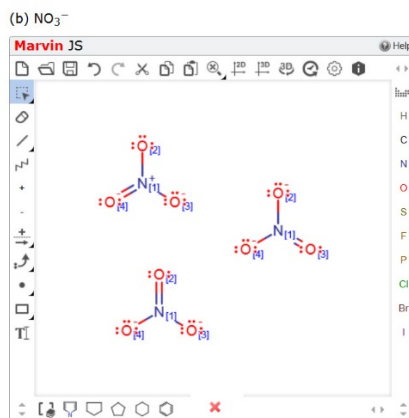
- iv. CORRECT ANSWER



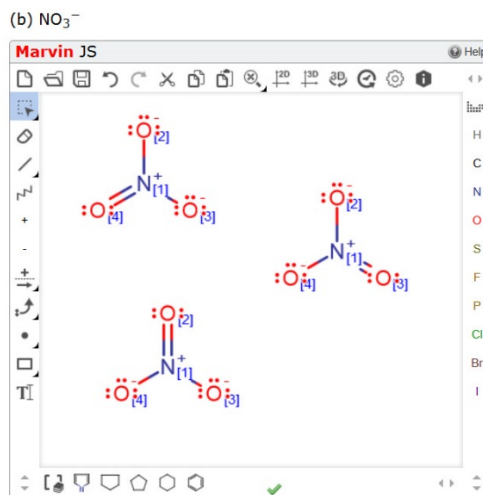
- v. INCORRECT ANSWER (NOT ALL POSSIBLE RESONANCE STRUCTURES)



vi. **INCORRECT ANSWER (CHARGES NOT INDICATED, OR INCORRECT CHARGES)**



vii. **CORRECT ANSWER (WHERE YOU PUT RESPECTIVE STRUCTURES IN WINDOW DOESN'T MATTER; COMPARE TO PICTURE IN i. ABOVE)**



38. Zumdahl #13.63
39. Zumdahl #13.79 (a, d, and f)
40. Zumdahl #13.80 (for 13.79 a,d, and f)

41. Zumdahl #13.87 [only for molecules from problems on HW#4 35(#13.57), and HW#5 36(#13.58a,#13.58c), and 37(#13.60a)]
42. Zumdahl #13.88
43. Zumdahl #13.91

44. Zumdahl #13.101 (c,d)

45. Zumdahl #13.102

Section

S9. **Zumdahl #13.7

S10. Zumdahl #13.11

S11. Zumdahl #13.10

S12. Zumdahl #13.97