

## 2C Exercises from the book

### Exercise 2C.2

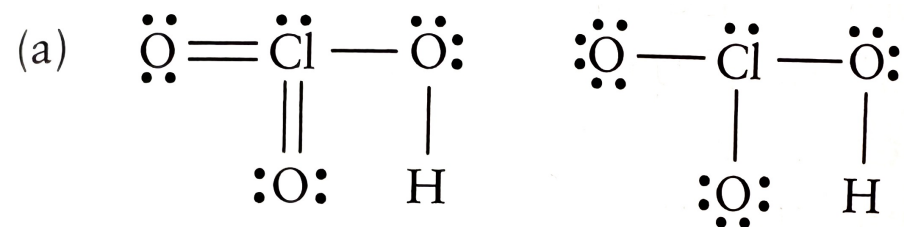
Which of the following species are radicals?



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### Exercise 2C.3

Calculate the formal charge on each atom in the following molecules. Identify the structure of lower energy in each pair.



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### Exercise 2C.3

Draw the Lewis structure, including principal contributions to the resonance structure (where appropriate, allow for the possibility of octet expansion, including double bonds in different positions), for

(a) Periodate ion,  $\text{IO}_4^-$

(b) Hydrogen phosphate ion,  $\text{HPO}_4^{2-}$

(c) Chloric acid,  $\text{HClO}_3$

(d) Arsenate ion,  $\text{AsO}_4^{3-}$

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