

## Exercise 0.32 – Polarity in molecules

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**Q032-01** Based on electronegativity values which bond is the most polar?

- A. B-C
  - B. C-O
  - C. N-O
  - D. O-F
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**Q032-02** Which of the following bonds will have the greatest polarity?

- A. C-H
  - B. C-N
  - C. C-O
  - D. C-C
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**Q032-03** Which combination of atoms can form a polar covalent bond?

- A. H and H
  - B. H and Br
  - C. N and N
  - D. Na and Br
- 

**Q032-04** Which of the following molecules is polar?

- A. CH<sub>4</sub>
  - B. CF<sub>4</sub>
  - C. NF<sub>3</sub>
  - D. CO<sub>2</sub>
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**Q032-05** Which of the following bonds will have the greatest polarity?

- A. C-H
  - B. C-N
  - C. C-O
  - D. C-C
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**Q032-06** Which combination of atoms can form a polar covalent bond?

- A. H and H
  - B. H and Br
  - C. N and N
  - D. Na and Br
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**Q032-07** Which of the following is/are polar?

- I. CH<sub>2</sub>Cl<sub>2</sub>
  - II. CHCl<sub>3</sub>
  - III. CCl<sub>4</sub>
- A. I, II and III are polar.
  - B. I and II are polar.
  - C. II and III are polar.
  - D. I is the only polar molecule.
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**Q032-08** Which molecule is non-polar?

- A.  $\text{NH}_3$
  - B.  $\text{BH}_3$
  - C.  $\text{H}_2\text{S}$
  - D.  $\text{HI}$
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**Q032-09** Which of the following is the best example of a non-polar molecule containing polar bonds?

- A.  $\text{F}_2$
  - B.  $\text{SO}_2$
  - C.  $\text{CS}_2$
  - D.  $\text{PCl}_3$
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**Q032-10** The neutral molecule  $\text{XCl}_3$  is found to have zero dipole moment. The element X is most likely to be?

- A. B
  - B. N
  - C. P
  - D. I
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**Q032-11** Which molecule is non-polar?

- A.  $\text{SO}_3$
  - B.  $\text{SO}_2$
  - C.  $\text{CO}$
  - D.  $\text{H}_2\text{O}$
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**Q032-12** Which molecules would be expected to have a significant dipole moment?

- 1.  $\text{SOCl}_2$
  - 2.  $\text{ICl}$
  - 3.  $\text{FCl}$
  - 4.  $\text{BCl}_3$
- A. 1 and 2
  - B. 3
  - C. 1, 2, and 3
  - D. all of them
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**Q032-13** Which molecule is polar?

- A.  $\text{CO}_2$
  - B.  $\text{SF}_6$
  - C.  $\text{BCl}_3$
  - D.  $\text{SF}_4$
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