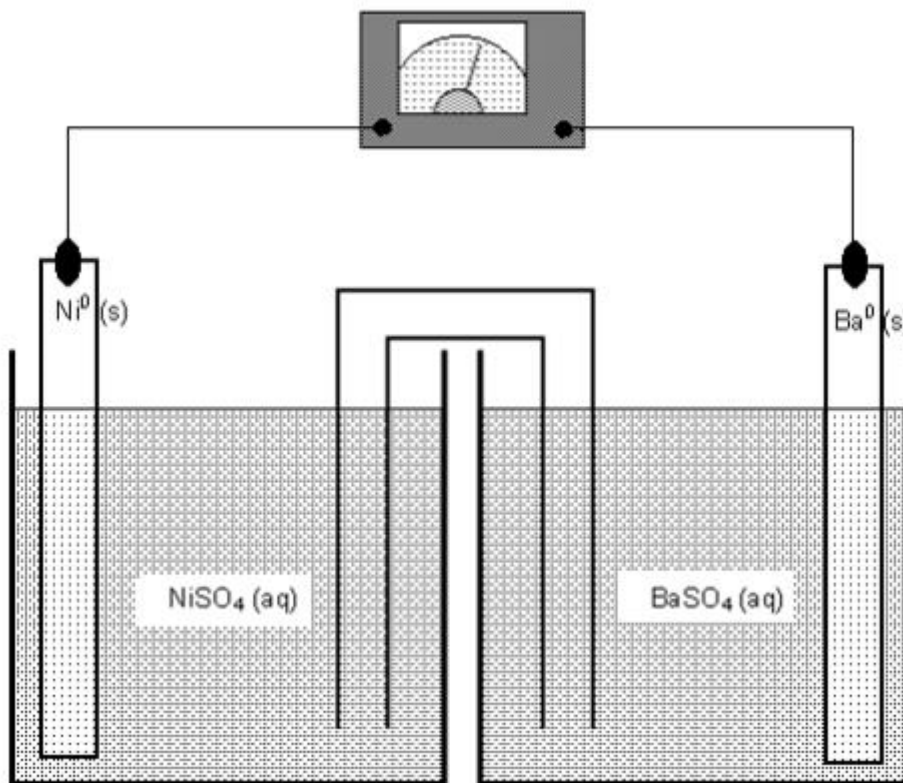


1. Given the following Nickel/Barium voltaic cell diagram:

a) According to Table J, _____ electrode will be the site of oxidation and _____ electrode will be the site of reduction

b) Label the anode, cathode, + electrode, - electrode, direction of electron flow, direction of anion flow, salt bridge and voltmeter.



c) Oxidation: _____ $E^\circ =$ _____ V

d) Reduction: _____ $E^\circ =$ _____ V

$E^\circ_{\text{total}} =$ _____ V

e) Which of the following statements are true?

- 1) The Ni electrode is getting larger because the nickel atoms are being oxidized to form nickel ions.
- 2) The Ni electrode is getting larger because the nickel ions are being reduced to form nickel atoms.
- 3) The Ni electrode is getting smaller because the nickel atoms are being oxidized to form nickel ions.
- 4) The Ni electrode is getting smaller because the nickel ions are being reduced to form nickel atoms.

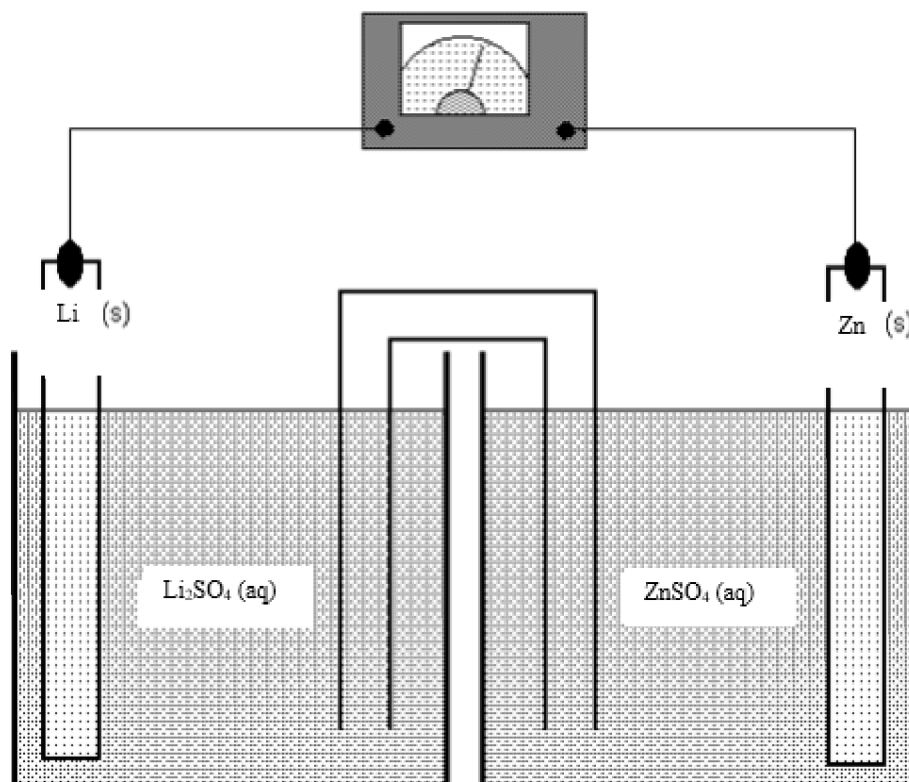
f) Which of the following statements are true?

- 1) The Ba electrode is getting larger because the barium atoms are being oxidized to form barium ions.
- 2) The Ba electrode is getting larger because the barium ions are being reduced to form barium atoms.
- 3) The Ba electrode is getting smaller because the barium atoms are being oxidized to form barium ions.
- 4) The Ba electrode is getting smaller because the barium ions are being reduced to form barium atoms.

2. Given the following Lithium/Zinc voltaic cell diagram:

a) According to Table J, _____ electrode will be the site of oxidation and _____ electrode will be the site of reduction

b) Label the anode, cathode, + electrode, - electrode, direction of electron flow, direction of anion flow, salt bridge and voltmeter.



c) Oxidation: _____ $E^\circ =$ _____ V

d) Reduction: _____ $E^\circ =$ _____ V

e) Balanced redox reaction: _____ $E^\circ_{\text{total}} =$ _____ V

_____ f) Which of the following statements are true?

- 1) The Li electrode is getting larger because the lithium atoms are being oxidized to form lithium ions.
- 2) The Li electrode is getting larger because the lithium ions are being reduced to form lithium atoms.
- 3) The Li electrode is getting smaller because the lithium atoms are being oxidized to form lithium ions.
- 4) The Li electrode is getting smaller because the lithium ions are being reduced to form lithium atoms.

_____ g) Which of the following statements are true?

- 1) The Zn electrode is getting larger because the zinc atoms are being oxidized to form zinc ions.
- 2) The Zn electrode is getting larger because the zinc ions are being reduced to form zinc atoms.
- 3) The Zn electrode is getting smaller because the zinc atoms are being oxidized to form zinc ions.
- 4) The Zn electrode is getting smaller because the zinc ions are being reduced to form zinc atoms.