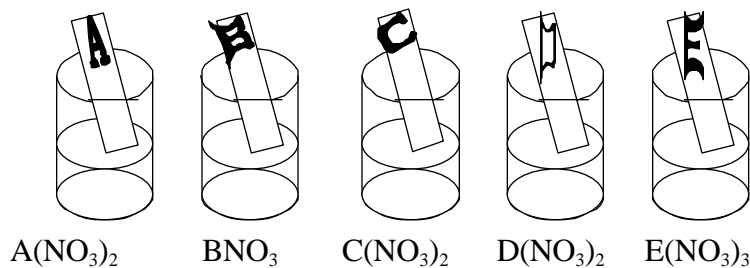


Redox: Quiz: Activity Series

Name: _____



Questions 1- 5 refer to 1.0 M aqueous solutions and strips of metals shown above.

The following experiments were performed:

- (i) A strip of metal D was inserted into each of the solutions. Reactions were observed only in solutions containing C²⁺ and A²⁺ ions.
- (ii) Metallic B was observed to react with solutions containing D²⁺ and E³⁺ ions. It was not tested in the other solutions.
- (iii) Metallic C does not react appreciably with any of the solutions.

Answer the following questions:

1. If a strip of metal A were placed in each of the solutions, a reaction could be expected in which solution? Justify.
2. List the metals in decreasing order of strength as reducing agents (strongest reducing agent first).
3. Write the net redox reactions for experiment (ii) of the observation above.
4. Explain fully how you would determine whether the element palladium is more active or less active than the metal B. (Describe fully the experiments and the expected result in each case)
5. It was observed that 0.3 moles of B reacted with solution E. The number of moles of E produced would be? (See equation in Q3 above and then think stoichiometry)
6. Would it be feasible to smuggle BNO_{3(aq)} across the Colombian border in a container made of metal C. Justify your answer.