

Wednesday, May 22/13
Science 122

Announcements

**** Need an activity re a course topic before the end of May.**

1. Worksheet - Energy of Photons, Work Function, Etc.
Worksheet - Energy Levels
 2. Test - Nuclear and Quantum Physics -> **Friday**
 3. Redox Half-Reaction Tables
 4. Predicting Spontaneous Redo Reactions
-



Part I - Short Answer

- terms
ie/ nucleon, nuclide etc.
- notation
ie/ isotope
ie/ decay particles.
 α or ${}^4_2\text{He}$
 β^- or ${}^0_{-1}\text{e}$ etc.
- formation of e^- and e^+
- write decay reactions
ie/ parent nucleus \rightarrow daughter nucleus + \square
- Planck, Einstein
- photoelectric effect.
+ terminology
+ graph
- energy level diagrams.

Part II - Problems.

Formulas:

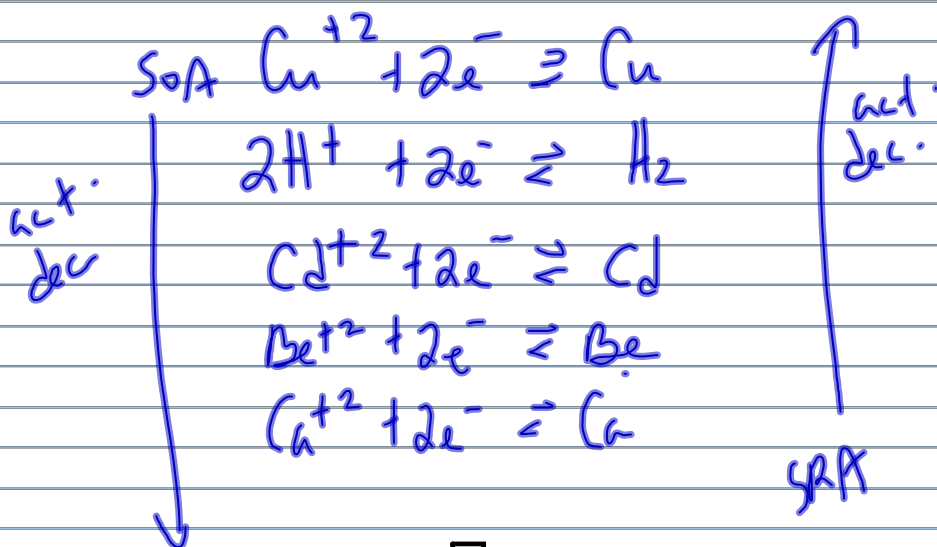
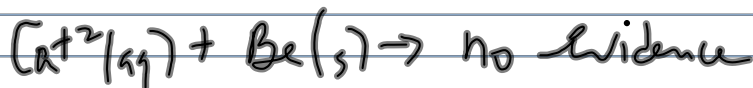
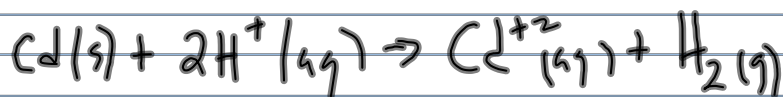
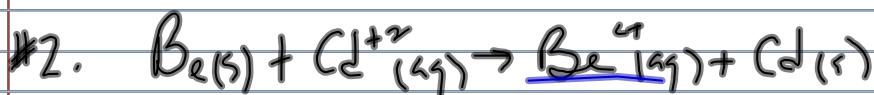
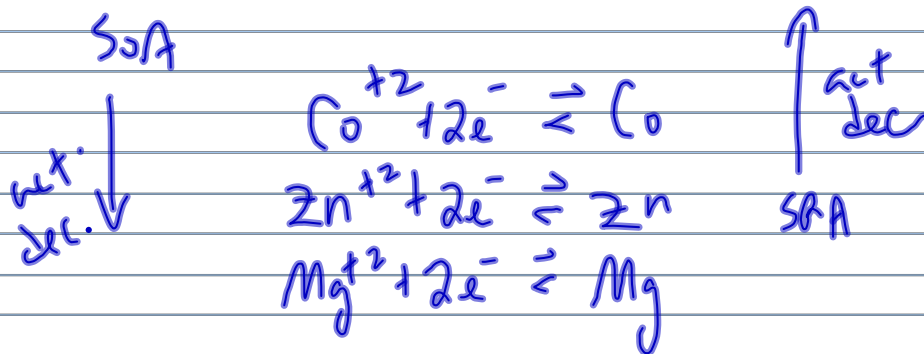
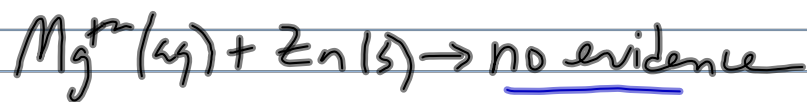
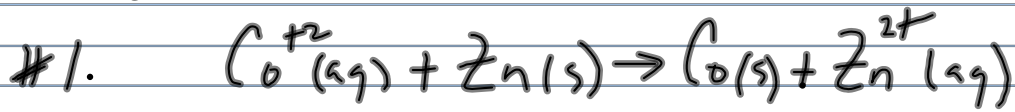
Nuclear Physics $\Rightarrow A, \lambda, N, N_0, m, T_{1/2}$ etc.

(2 worksheets)

Quantum Physics $\Rightarrow E, \phi, f, E_n$ etc
(2 worksheets)



Try:



□

Generalizations

Usually behave as reducing agents:

metals, non-metal ions, basic solⁿs.

Usually behave as oxidizing agents:

metal ions, non-metals, acidic solutions.

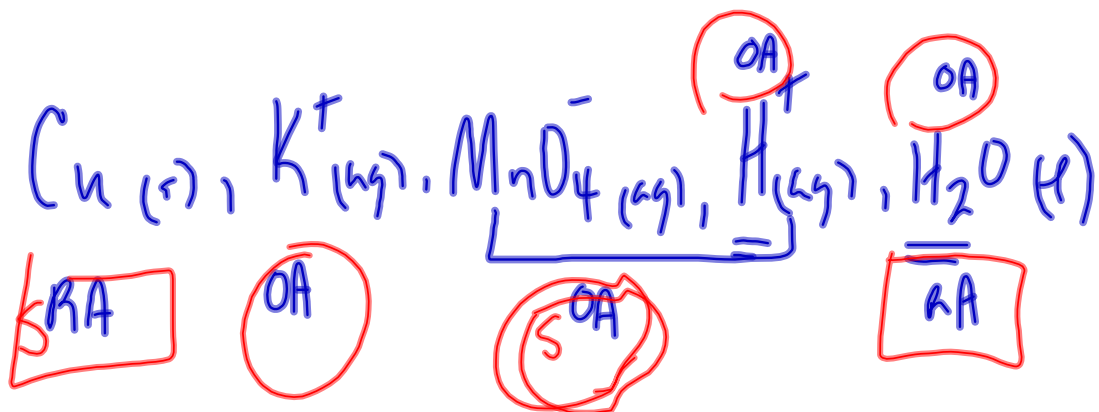
Predicting Redox Reactions

5-Steps to Predicting Redox Rxns.

Page 416 - Old Nelson

Page 610 - Appendix F - Redox Half-Reactions

Example: When copper metal is placed into an acidic potassium permanganate solution, copper atoms, potassium ions, permanganate ions, hydrogen ions and water molecules are present. List the entities and classify them as OA or RA.



p. 610

Example: A solution of potassium permanganate is slowly poured into an acidic iron (II) sulfate solution. Does a redox reaction occur? If so, what is it?