

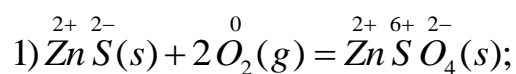
Answer on Question #64954 - Chemistry – Other

Task:

Which of the following is an oxidation-reduction reaction?

- 1) $\text{ZnS}(s) + 2\text{O}_2(g) = \text{ZnSO}_4(s)$;
- 2) $\text{CaO}(s) + \text{H}_2\text{O}(l) = \text{Ca}(\text{OH})_2(s)$;
- 3) $6\text{Li}_2\text{O}(s) + \text{P}_4\text{O}_{10}(g) = 4\text{Li}_3\text{PO}_4(s)$;
- 4) $\text{SO}_2(g) + \text{H}_2\text{O}(l) = \text{H}_2\text{SO}_3(aq)$.

Solution:

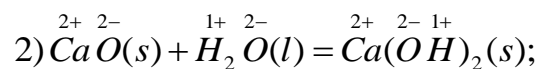


Sulfur and oxygen are changing the degree of oxidation.

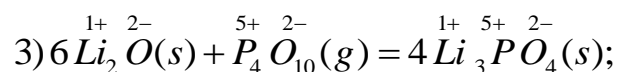
Reaction (1) - oxidation-reduction reaction

O_2 - oxidizing agent;

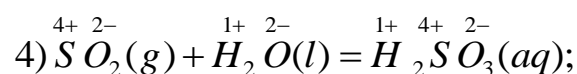
ZnS - reducing agent.



The elements do not change the oxidation state



The elements do not change the oxidation state



The elements do not change the oxidation state

Answer:

- 1) $\text{ZnS}(s) + 2\text{O}_2(g) = \text{ZnSO}_4(s)$ - oxidation-reduction reaction.