Header

Title

Problem:

Hypothesis:

Chemical Reactions: (please indicate where heat would appear in the reactions below according to your results)

**H3C6H5O7(aq) + 3 NaHCO3(s)  3 CO2(g) + 3 H2O(aq) + Na3C6H5O7(aq)**

**Mg(s) + 2 HCl(aq)  H2(g) + MgCl2(aq)**

DATA TABLE

|  |  |  |
| --- | --- | --- |
|  | Part I | Part II |
| Final temperature, *t2* | °C | °C |
| Initial temperature, *t1* | °C | °C |
| Temperature change, ∆*t* | °C | °C |

Processing the data

1. Calculate the temperature change, ∆*t*, for each reaction by subtracting the initial temperature, *t1*, from the final temperature, *t*2 (∆*t* = *t*2 – *t*1). (Use equation editor)

2. Tell which reaction is exothermic. **Explain.**

3. Which reaction had a negative ∆*t* value? Is the reaction endothermic or exothermic? **Explain.**

4. For each reaction, describe three ways you could tell a chemical reaction was taking place.

1.

2.

3.

1. Which reaction took place at a greater rate? **Explain your answer. Please reference your garphs for support.**

6. Import your graphs from the Logger Pro software. Label the axis, Final temperature, *t2 ,* Initial temperature, *t1, and title the graph. Both graphs should be formatted and anchored MMSTC Style.*