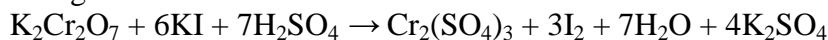
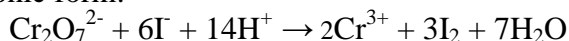


Determination of potassium dichromate ($K_2Cr_2O_7$)

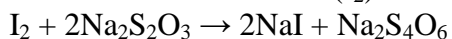
Potassium dichromate ($K_2Cr_2O_7$) reacts with the excess of potassium iodide (KI) according to the following redox reaction:



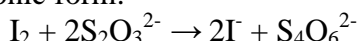
or in ionic form:



Released in this reaction iodine (I_2) is then titrated with sodium thiosulfate ($Na_2S_2O_3$).



or in ionic form:



Indicator - starch (gives dark blue color with iodine)

Manual

1. Dilute obtained from the teacher sample of $K_2Cr_2O_7$ in the volumetric flask to 100 ml.
2. Mix the content of the flask.
3. Transfer 10 ml of the solution with a pipette to 3 Erlenmeyer flasks.
4. To each flask add (using a cylinder) 10 ml of the 2% KI solution and 5 ml of 2M H_2SO_4 .
5. Add 20 drops of starch solution (indicator).
6. Titrate with $Na_2S_2O_3$ until the color changes from dark blue to light green. Repeat the titration two more times.
7. Calculate the amount of milligrams of $K_2Cr_2O_7$ obtained from the teacher (in 100 ml).

The report should contain:

1. Reactions
2. Three values obtained during titration and the calculated mean value.
3. Calculation showing how many mg of $K_2Cr_2O_7$ was in the flask obtained from the teacher.
4. The table as below:

Student's number	Mean volume (ml)
	Mass of $K_2Cr_2O_7$ in the flask (mg)

