**WEEKLY SCHEDULE OF CLASSICAL EXPERIMENTS IN 2015/16**

**Week 1 (15th February)**

1. Introduction to the Quantitative Analytical Chemistry Laboratory. Laboratory Safety Information.

2. Review of lab equipment.

3. Preparation of ~0.1 mol/dm3 HCl titrant (250 cm3). (in Manual: site 1, part *a*)

**Week 2 (22th February)**

***ACID-BASE TITRATIONS:***

1. Determination of the exact concentration of the HCl titrant solution using KHCO3 stock solution. (in Manual: site 1, part *b*)

2. Determination of **HgO** in a HgO-KCl mixture /**unknown sample**/ (in Manual: site 4)

**Week 3 (29th February)**

***ACID-BASE TITRATIONS:***

1. Preparation of ~0.1 mol/dm3 NaOH titrant by the Sörensen method (500 cm3) and determination of its exact concentration. (in Manual: site 1, part *a* and *b*)

2. Determination of **oxalic acid** /**unknown sample**/ (in Manual: site 3)

3. Simultaneous determination of **sulfuric acidand boric acid** in a mixture /**unknown sample**/ (in Manual: site 3-4)

4. For permanganometric titrations: Preparation of 0.02 mol/dm3 KMnO4 titrant (250.0 cm3). (in Manual: site 7, part *a*)

5. Preparation of the filters for gravimetric determination of CaC2O4.2H2O.

**Week 4 (5th SATURDAY, March)**

***PERMANGANOMETRIC TITRATIONS (redox measurements)***

1. Determination of the exact concentration of the KMnO4 titrant solution using Na2(COO)2 stock solution. (in Manual: site 7, part *b*)

2. Determination of **ferrous oxalate** /**unknown sample**/. (in Manual: site 9)

3. Determination of **hydrogen peroxide** /**unknown sample**/. (in Manual: site 9)

4. Gravimetry: Ca(II) as **Ca(COO)2** precipitate (precipitation, filtration) /**unknown sample**/. (in Manual: site 19)

**Week 5 (7th, March)**

***IODOMETRIC TITRATIONS (redox measurements):***

1. Preparation of 0.02 mol/dm3 Na2S2O3 titrant (250.0 cm3) and determination of its exact concentration using0.003 mol/dm3 KIO3 stock solution. (in Manual: site 10-11)

2. Determination of **copper(II)** /**unknown sample**/. (in Manual: site 11)

3. Determination of **iodide ion** /**unknown sample**/. (in Manual: site 11-12)

4. Final results form the determination of Ca(II) by gravimetry (**unknown sample**).

**Week 6 (21th March)**

***BROMATOMETRIC TITRATIONS (redox measurements):***

1. Preparation of 0.02 mol/dm3 KBrO3 titrant (250.0 cm3). (in Manual: site 9-10)

2. Determination of **ascorbic acid** active ingredient content of vitamin C tablet /**unknown sample**/ (in Manual: site 10)

***ARGENTOMETRIC TITRATIONS:***

3. Preparation of 0.05 mol/dm3 AgNO3 titrant (250.0 cm3). (in Manual: site 15)

4. Argentometric determination of the composition of a **NaCl-KBr** mixture /**unknown sample**/. (in Manual: site 15)

**Week 7 (4th April)**

***COMPLEXOMETRIC TITRATIONS:***

1. Preparation of 0.01 mol/dm3 Na2EDTA titrant solution (250.0 cm3). (in Manual: site 16)

2. Simultaneous determination of **Ca2+ and Mg2+ ions** /**unknown sample**/. (in Manual: site 16)

3. Determination of **Al(III)** /**unknown sample**/. (in Manual: site 17)

4. Lab equipment return.

**INSTRUMENTAL ANALYSIS EXPERIMENT IN 2015/16**

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| --- | --- | --- | --- | --- | --- | --- |
| **Date**  **Experiment** | **29th March** | **11th April** | **18th April** | **25th April** | **2th**  **May** | **9th**  **May** |
| **UV-VIS spectrophotometry**  **(D-312)**  *Enikő Győri* |  |  | 4, 8 | 1, 5 | 2, 6 | 3, 7 |
| **Conductometry (D-104)**  *Dr. Attila Bényei* |  |  |  |  | 3, 4, 7, 8 | 1, 2, 5, 6 |
| **Atomic spectroscopy**  **(D-423, D-414)**  *Dávid Nagy*, *Sándor Harangi* | 1-8 |  |  |  |  |  |
| **pH-metry (E-10)**  *Dr. Ágnes Grenács* |  |  | 3, 7 | 2, 6 | 1, 5 | 4, 8 |
| **Gelelectrophoresis (D-308)**  *Péter Koczka* |  | 1-8 |  |  |  |  |
| **Size exlusion chromatography (D-308)**  *Gábor Lehoczki* |  |  | 1, 2, 5, 6 | 3, 4, 7, 8 |  |  |

**Groups:**

|  |  |  |  |
| --- | --- | --- | --- |
| **1** | **2** | **3** | **4** |
| Sina Sepahizia | Hakan Őztűrker | Mohamed Mukhtar | Zhao Zijian |
| Ghazal Zargarzadeh | Gökhan Ercan | Awele Victor Okonkwo | Tesson Joe |
| Ala Pourabbas | Meshal Hariri | Akinmosin Oladipo Samson | Naiyeju Moses Abayomi |

|  |  |  |  |
| --- | --- | --- | --- |
| **5** | **6** | **7** | **8** |
| Tran Anh Tuan | Waseem Ahmad Iftikhar | Cynthia Alokha | Tara Baranpourian |
| Mai Hung | Hamza Bouras | Afiomah Chisom Danielle | Farzaneh Fotouhi |
| Pham Huynh Thúy An | Mostafa Beit Sayahi | Abdul Rasheed Fatima | Sina Koohestani |
| Le Cong Thuy Cat | Muhannad Alhumaymidi | David Salifu Ebenezer | Siavash Hossein Pour |