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| --- | --- |
| **Experiment Name:** | Anisol (Phenyl methyl ether) |
| **Classification of Experiment:** | Etherification reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 432 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Phenol | 1.9g (20mmol) |
| Water (pure) | 10mL |
| NaOH | 1g (25mmol) |
| Dimethyl sulfate | 2.5g (20mmol) |
| Diethyl ether | 5-10mL  |
| H2SO4 | Appropriate amount |
| NaCl | Appropriate amount |
| CaCl2 | Appropriate amount |
| **Experiment Name:** | Acetophenone |
| **Classification of Experiment:** | Friedel-Crafts reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 600 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Benzene | 4.4g, 5mL (56mmol) |
| AlCl3 (anhydrous) | 2g (15mmol) |
| Acetyl chloride | 1.5g, 1.4mL (19mmol) |
| Water (pure) | 15mL |
| HCl (dilute) | Appropriate amount |
| NaOH (dilute) | Appropriate amount |
| MgSO4  | Appropriate amount |
| **Experiment Name:** | Aspirin (O-Acetylsalicylic acid) |
| **Classification of Experiment:** | Esterification Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 874 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Salicylic acid (dry) | 1.3g (10mmol) |
| Acetic anhydride | 2g, 1.9mL (20mmol) |
| H2SO4 (conc.) | 5 damla |
| Water (pure) | 20mL |
| Ethanol | 4mL |
| Benzene /Ether- Petroleum ether (crystallization) | Appropriate amount |
| **Experiment Name:** | Benzal acetone |
| **Classification of Experiment:** | Condensation Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 622 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Benzaldehyde | 0.8g, 0.8mL (8mmol) |
| Acetone | 1.3g, 1.6mL (22mmol) |
| NaOH (%10 çöz) | 0.5mL |
| HCl (dilute) | Appropriate amount |
| Benzene | 0.5mL |
| Water (pure) | Appropriate amount |
| Na2SO4 | Appropriate amount |
| Petroleum ether (crystallization) | Appropriate amount |
| **Experiment Name:** | Benzalazine |
| **Classification of Experiment:** | Condensation Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 818 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Hydrazine sulfate | 0.6g (5mmol) |
| Water (pure) | 4.5mL |
| NH3 (conc.) | 0.6mL  |
| Benzaldehyde | 1.15g, 1.1mL (11mmol) |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Benzyl |
| **Classification of Experiment:** | Oxidation-Reduction Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 589 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Benzoin | 1.9g (10mmol) |
| HNO3 (conc.) | 10mL |
| Water (pure) | Appropriate amount |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Benzyl alcohol |
| **Classification of Experiment:** | Oxidation-Reduction Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 382 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| KOH | 5.6g (100mmol) |
| Water (pure) | 5mL |
| Benzaldehyde | 6.4g, 6.4mL (60mmol) |
| MgSO4  | Appropriate amount |
| NaHSO3 | Appropriate amount |
| Diethyl ether | Appropriate amount |
| **Experiment Name:** | Benzophenone |
| **Classification of Experiment:** | Friedel-Crafts reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 610 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| CCl4 | 8.2mL |
| AlCl3 (anhydrous) | 1.8g (13mmol) |
| Benzene | 5.2mL |
| Water (pure) | Appropriate amount |
| MgSO4  | Appropriate amount |
| **Experiment Name:** | Benzoic acid |
| **Classification of Experiment:** | Oxidation-Reduction Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 382 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| KOH | 5.6g (100mmol) |
| Water (pure) | 5mL |
| Benzaldehyde | 6.4g, 6.4mL (60mmol) |
| MgSO4  | Appropriate amount |
| NaHSO3 | Appropriate amount |
| Diethyl ether | Appropriate amount |
| HCl (ice mixture) | Appropriate amount |
| **Experiment Name:** | Benzoin |
| **Classification of Experiment:** | Condensation Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 387 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| NaCN | 0.5g  |
| Water (pure) | 5mL |
| Ethanol (absolüt) | 6mL  |
| Benzaldehyde | 5g, 4.7mL (47mmol) |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | p-Bromoacetophenone |
| **Classification of Experiment:** | Friedel-Crafts reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 600 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Bromobenzene | 1.6g (10mmol) |
| CS2 | 4mL |
| AlCl3 (anhydrous) | 3.2g (25mmol) |
| Asetanhidrit | 1g, 0.9mL (10mmol) |
| HCl (conc.) | 3mL |
| NaOH (dilute) | Appropriate amount |
| MgSO4  | Appropriate amount |
| **Experiment Name:** | p-Bromonitrobenzene |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 777 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| HNO3 (conc.) | 2mL  |
| H2SO4 | 2mL  |
| bromobenzene | 1.6g, 1.1mL (10mmol) |
| Water (pure) | 100mL |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | p-Bromotoluene |
| **Classification of Experiment:** | Diazotization reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 465 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| CuSO4.5H2O | 1.6g (6mmol) |
| Cu | 0.65g (10mmol) |
| NaBr | 7.7g (35mmol) |
| H2SO4 (conc.) | Appropriate amount |
| NaHSO3 | Appropriate amount |
| p-Toluidine | 2.7g (25mmol) |
| Water (pure) | Appropriate amount |
| NaNO2 | 1.8g (25mmol) |
| NaOH (%20) | Appropriate amount |
| Diethyl ether | Appropriate amount |
| CaCl2 | Appropriate amount |
| **Experiment Name:** | n-Butyraldehyde |
| **Classification of Experiment:** | Oxidation-Reduction Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 559 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Na2Cr2O7 | 5.6g (21 mmol) |
| Water (pure) | 30mL |
| H2SO4 (conc.) | 4mL |
| n-Butyl alcohol | 4.1g, 5.1mL (55 mmol) |
| MgSO4  | Appropriate amount |
| **Experiment Name:** | Diazoaminoazobenzene |
| **Classification of Experiment:** | Diazotization reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 828 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Aniline | 1.4g, 1.4mL (15mmol) |
| Water (pure) | 7.5mL |
| HCl (conc.) | 2mL  |
| NaNO2 | 0.52g (7.6mmol) |
| Sodium acetate | 2g  |
| Petroleum ether (crystallization) | Appropriate amount |
| **Experiment Name:** | Dibenzalacetone |
| **Classification of Experiment:** | Condensation Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 623 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| NaOH | 0.8g |
| Ethanol | 6mL  |
| Benzaldehyde | 0.8g, 0.8mL (8mmol) |
| Acetone | 0.2g, 0.3mL (4mmol) |
| Ethyl acetate (crystallization) | Appropriate amount |
| **Experiment Name:** | Diphenylcarbinol (Benzhydrol) |
| **Classification of Experiment:** | Grignard Tepkimeleri |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 402 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Mg | 0.7 g (30mmol) |
| Diethyl ether | Appropriate amount |
| bromobenzene | 4g (25mmol) |
| Iodine | Catalytic amount |
| Benzaldehyde | 2.1g (20mmol) |
| HCl | Appropriate amount |
| NaHSO3 | Appropriate amount |
| CaCl2 | Appropriate amount |
| Petroleum ether - Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | m-Dinitrobenzene |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 778 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| H2SO4 (conc.) | 2.1mL |
| HNO3 (conc.) | 1.5mL |
| Nitrobenzene | 1.5g, 1.3mL (12mmol) |
| Water (pure) | Appropriate amount |
| Methanol (crystallization) | Appropriate amount |
| **Experiment Name:** | 2,4-Dinitrobromobenzene |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 779 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| H2SO4 (conc.) | 3mL |
| HNO3 (conc.) | 3mL |
| bromobenzene | 1.6g, 1.1mL (10mmol) |
| NaHCO3 | Appropriate amount |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Phenyl acetate |
| **Classification of Experiment:** | Esterification Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 693 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Fenol | 0.6g (6mmol) |
| NaOH (%10 çöz) | 4mL |
| Asetanhidrit | 0.8g, 0.8mL (8mmol) |
| CCl4 | 2mL  |
| Na2CO3 | Appropriate amount |
| MgSO4  | Appropriate amount |
| **Experiment Name:** | Phenyl benzoate |
| **Classification of Experiment:** | Esterification Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 691 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Phenol | 1g (10mmol) |
| NaOH (%10 çöz) | 15mL |
| Benzoyl chloride | 2.2g, 1.8mL (16mmol) |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Phtalimide |
| **Classification of Experiment:** | Other reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 741 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Phthalic Anhydride | 1.5g (10mmol) |
| Urea | 0.3g (5mmol) |
| Water (pure) | 1.5mL |
| Methanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Iodoform |
| **Classification of Experiment:** | Other reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 501 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| KI | 3g (18mmol) |
| Water (pure) | 50mL |
| Acetone | 1.1g, 1mL (19mmol) |
| NaClO (%5) | ~35mL |
| Methanol - Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | p-Iodoaniline |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 496 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Aniline | 2.3g, 2.4mL (25mmol) |
| NaHCO3 | 3.5g  |
| Water (pure) | 20mL |
| Iodine | 6.3g  |
| Petroleum ether (crystallization) | Appropriate amount |
| **Experiment Name:** | Iodobenzene |
| **Classification of Experiment:** | Diazotization reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 464 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Aniline | 1g, 0.9mL (10mmol) |
| HCl (conc.) | 2.5mL |
| Water (pure) | 2.5mL |
| NaNO2 | 0.8g (13mmol) |
| KI | 1.8g (12mmol) |
| NaOH (%10 çöz) | Appropriate amount |
| Na2SO3 | Appropriate amount |
| **Experiment Name:** | Isoamyl acetate |
| **Classification of Experiment:** | Esterification Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | - |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Isoamyl alcohol | 4g, 5mL (45mmol) |
| Acetic acid (glacial) | 6.6mL |
| H2SO4 | 1.3mL |
| NaHCO3 | Appropriate amount |
| Na2SO4 | Appropriate amount |
| **Experiment Name:** | 2-Butanone |
| **Classification of Experiment:** | Oxidation-Reduction Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 586 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| sec-butyl alcohol | 3.7g, 4.5mL (50mmol) |
| Na2Cr2O7 | 9.3g (31mmol) |
| Water (pure) | Appropriate amount |
| H2SO4 (conc.) | 7mL |
| **Experiment Name:** | Methyl orange |
| **Classification of Experiment:** | Diazotization reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 890 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Sulfanilic acid dihydrate | 1.05g (5mmol) |
| Na2CO3 | 0.27g (2.5mmol) |
| Water (pure) | 10mL |
| NaNO2 | 0.37g (5.4mmol) |
| HCl (dilute) | 1mL |
| Dimethyl aniline | 0.61g, 0.6mL (5mmol) |
| NaOH (%20 çöz) | 3.5mL |
| NaCl | 1g |
| Acetic acid | 0.3mL |
| Diethyl ether | Appropriate amount |
| **Experiment Name:** | 2-Naphthol orange |
| **Classification of Experiment:** | Diazotization reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 890 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Sulfanilic acid dihydrate | 1.05g (5mmol) |
| β-naphthol | 0.72g (5mmol) |
| NaOH (%10 çöz) | 4mL |
| NaCl | 2g  |
| Ethanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Nerolin (Methyl β-naphthyl Ether) |
| **Classification of Experiment:** | Etherification reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 432 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| β-naphthol | 1.4g (10mmol) |
| NaOH | 0.4g (10mmol) |
| Water (pure) | 5mL |
| Dimetil sülfat  | 1.3g (10mmol) |
| benzene - Methanol (crystallization) | Appropriate amount |
| **Experiment Name:** | Nitrobenzene |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 776 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| benzene | 1.6g, 1.8mL (20mmol) |
| HNO3 (conc.) | 4mL |
| H2SO4 (conc.) | 4mL |
| Na2CO3 (%10 çöz) | 2-3mL |
| CaCl2 | Appropriate amount |
| **Experiment Name:** | Soap |
| **Classification of Experiment:** | Esterification Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 643 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Vegetable oil | 200g |
| NaOH (5N) | 100mL |
| Water (pure) | 100mL |
| **Experiment Name:** | Cinnamic acid (β-Phenyl acrylic acid, Cinnamon acid) |
| **Classification of Experiment:** | Condensation Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 674 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Benzaldehyde | 2.1g, 2mL (20mmol) |
| Acetic anhydride | 3g, 2.8mL (30mmol) |
| Potassium acetate | 1.2g |
| Water (pure) | 50mL |
| Na2CO3 (%10 çöz) | Appropriate amount |
| Methanol -water(crystallization) | Appropriate amount |
| **Experiment Name:** | 2,4,6-Tribromoaniline |
| **Classification of Experiment:** | Aromatic Electrophilic Substitution Reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 495 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Bromine | 6g, 2.1mL (35mmol) |
| Water (pure) | Appropriate amount |
| Aniline | 0.9g (10mmol) |
| Ethanol | Appropriate amount |
| **Experiment Name:** | Triphenylcarbinol (Trityl alcohol) |
| **Classification of Experiment:** | Grignard reactions |
| **Page number (see Experimental Organic Chemistry, Prof. Ender Erdik)** | 402 |
| **Required chemicals:** | **Chemical Name** | **Chemical amount to be used** |
| Mg | 0.7 g (30mmol) |
| Diethyl ether | Appropriate amount |
| Bromobenzene | 4g (25mmol) |
| Iodine | Catalytic amount |
| Ethyl benzoate | 1.5g (10mmol) |
| HCl | Appropriate amount |
| CaCl2 | Appropriate amount |
| Ethanol (crystallization) | Appropriate amount |