

Chem collective Vlabs screening task assignment

Using the chemicals in the Stockroom Explorer,

- i. Dilute 1 M sulphuric acid to 0.01 M.
- ii. Measure pH for 1 M and 0.01 M sulphuric acid

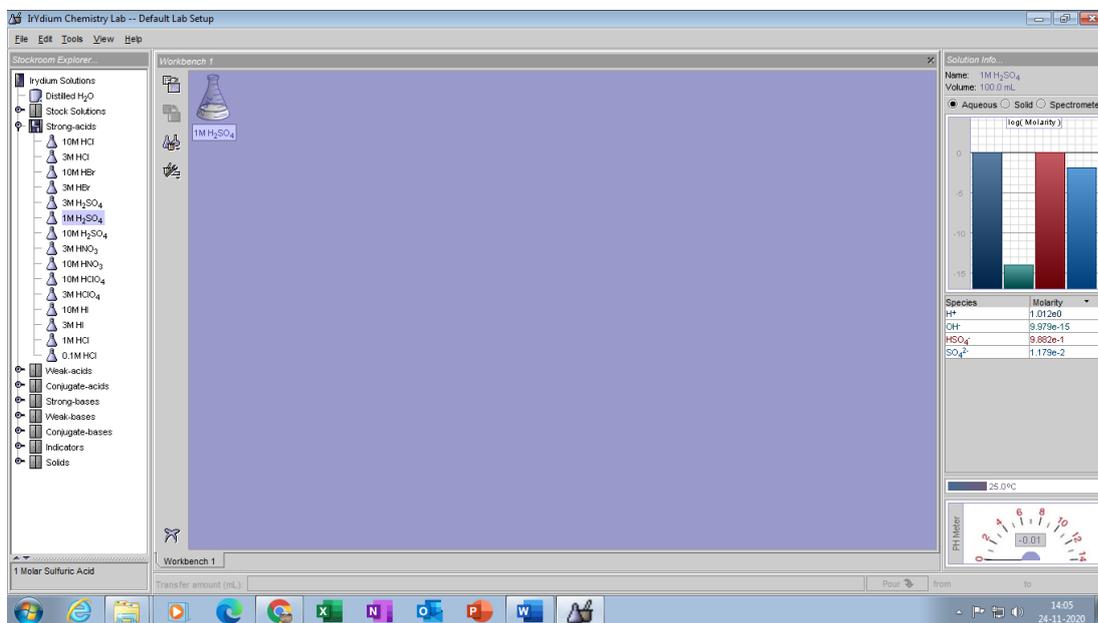
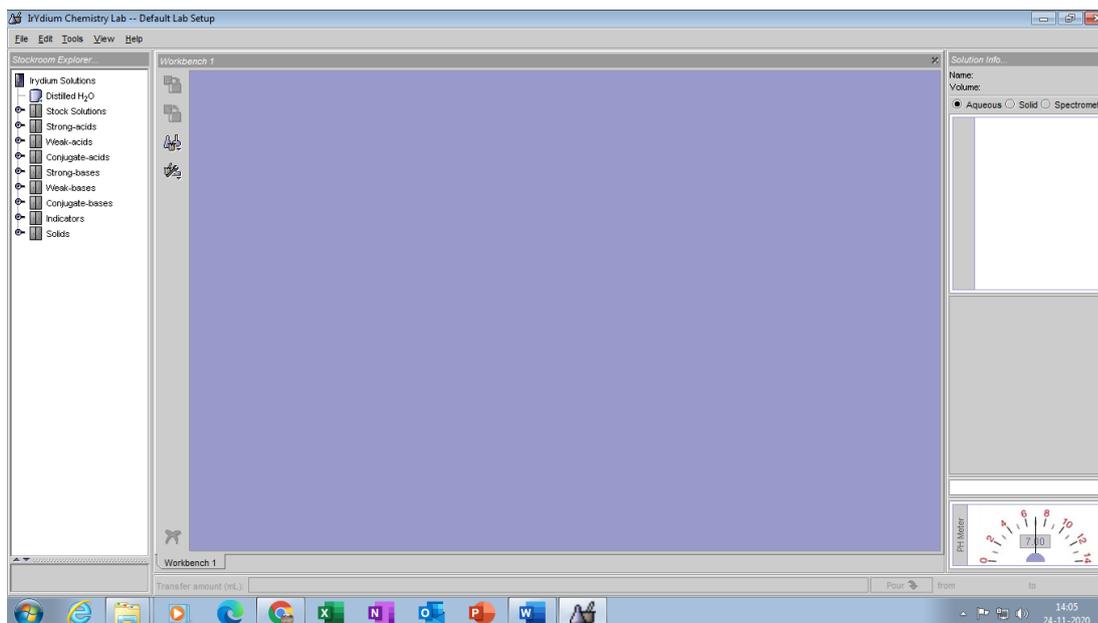
Step 1:

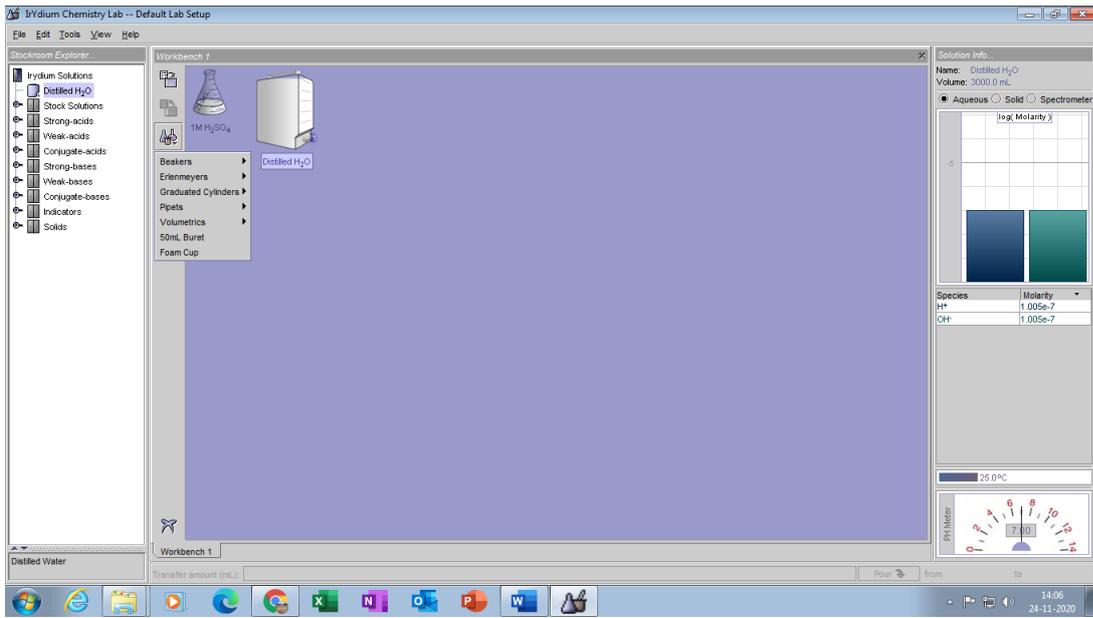
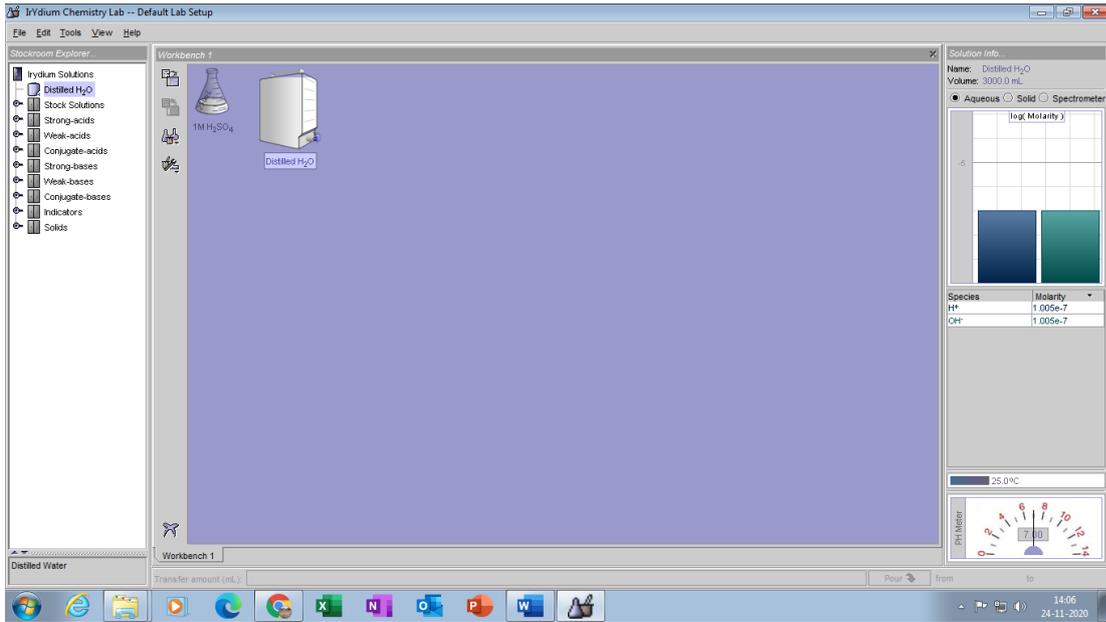
- $V_1 * N_1 = V_2 * N_2$
- $100 * 0.01 = x * 1$
- $x = 100 * 0.01 / 1$
- $x = 1 \text{ ml}$
- 1ml taken from 1M sulphuric acid to make into 0.01 M sulphuric acid

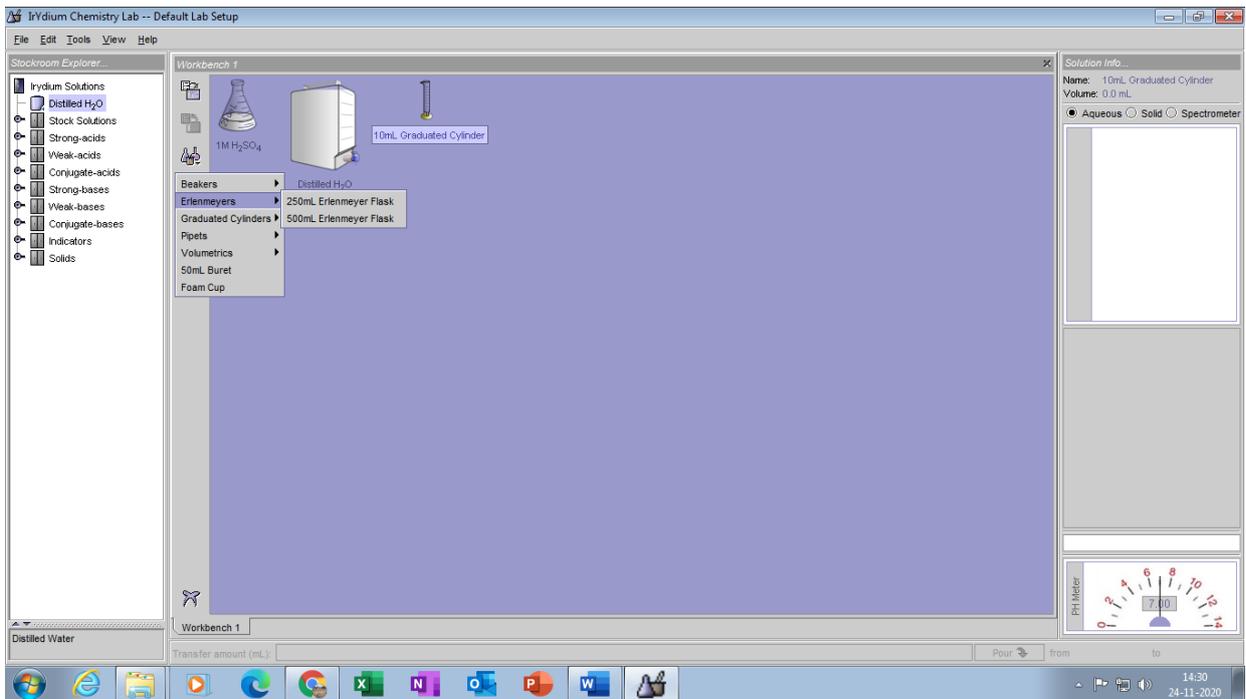
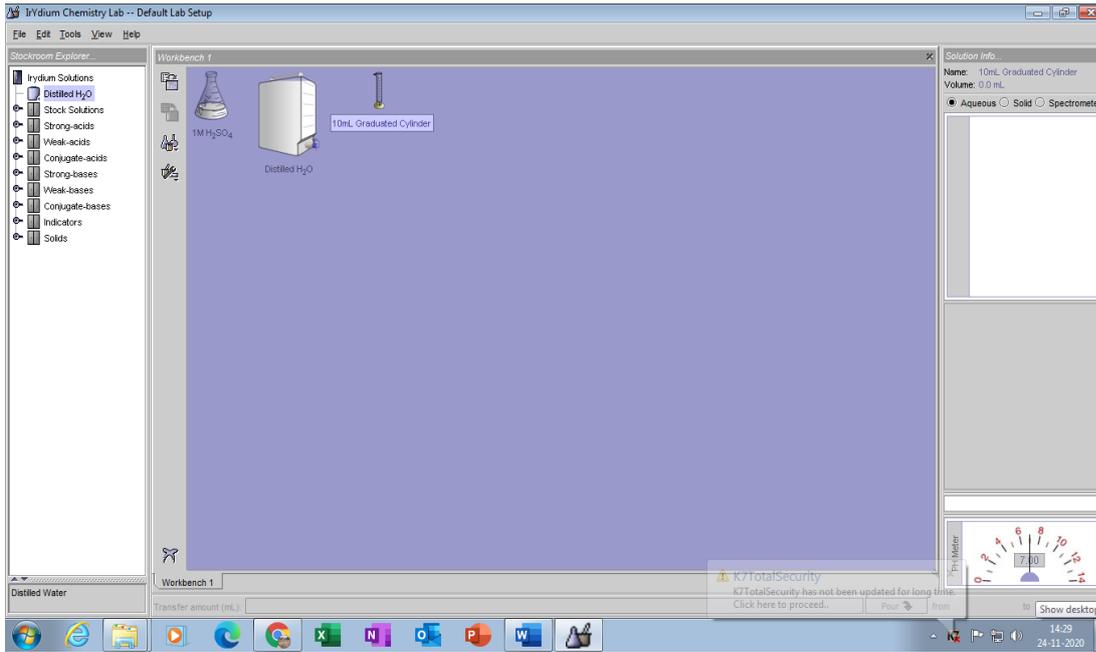
step 2:

- Open virtual chemistry application window
- Stockroom explorer opens with various solutions of acids and bases
- Double click on strong acids cabinet, a list of acidic solutions with various strengths are displayed
- Double click to choose 1M H_2SO_4 solution.
- Click on the flask and note the pH on the pH meter in the right bottom corner.
- pH meter reads ____-0.01__
- Click on the radio button near strong acid cabinet to close the list
- Double click on the distilled water icon from stock room explorer
- Add the apparatus from the glassware icon-select-graduated cylinders-select 10ml graduated cylinder from the submenu to add to workbench.
- Now again select the glassware icon and click Erlenmeyer flask-select 250 ml Erlenmeyer flask to the workbench
- Drag 1M H_2SO_4 solution flask over to the graduated cylinder and adjust to see the green +on the flask.
- Type 1 ml in the transfer amount (ml) input bar- click on pour
- From tool menu-select-transfer-realistic transfer mode-click pour button gradually
- Move the flask aside
- Move the distilled water tank over the flask-Type 99 ml in the transfer amount (ml) input bar- click on pour
- Move the distilled water aside

- Place the graduated cylinder over flask and see green +
- From tool menu-select-transfer-realistic transfer mode-click pour button gradually
- Move the graduated cylinder aside
- Now click on flask and observe the pH on the pH meter
- pH meter reads 1.84







IrYdium Chemistry Lab -- Default Lab Setup

File Edit Tools View Help

Stockroom Explorer

- IrYdium Solutions
 - Distilled H₂O
 - Stock Solutions
 - Strong-acids
 - Weak-acids
 - Conjugate-acids
 - Strong-bases
 - Weak-bases
 - Conjugate-bases
 - Indicators
 - Solids

Workbench 1

1M H₂SO₄ Distilled H₂O 10mL Graduated Cylinder 250mL Erlenmeyer Flask

Solution Info

Name: 250mL Erlenmeyer Flask
Volume: 0.0 mL

Aqueous Solid Spectrometer

Distilled Water

Transfer amount (mL): from to Show desktop

14:31
24-11-2020

IrYdium Chemistry Lab -- Default Lab Setup

File Edit Tools View Help

Stockroom Explorer

- IrYdium Solutions
 - Distilled H₂O
 - Stock Solutions
 - Strong-acids
 - Weak-acids
 - Conjugate-acids
 - Strong-bases
 - Weak-bases
 - Conjugate-bases
 - Indicators
 - Solids

Workbench 1

1M H₂SO₄ Distilled H₂O 10mL Graduated Cylinder 250mL Erlenmeyer Flask

Solution Info

Name: 1M H₂SO₄
Volume: 100.0 mL

Aqueous Solid Spectrometer

(log Molarity)

Species	Molarity
H ⁺	1.012e0
OH ⁻	9.979e-15
HSO ₄ ⁻	9.882e-1
SO ₄ ²⁻	1.179e-2

25.0°C

Distilled Water

Transfer amount (mL): from to

15:03
24-11-2020

IVidium Chemistry Lab -- Default Lab Setup

File Edit Tools View Help

Stockroom Explorer

- Iridium Solutions
 - Distilled H₂O
 - Stock Solutions
 - Strong-acids
 - Weak-acids
 - Conjugate-acids
 - Strong-bases
 - Weak-bases
 - Conjugate-bases
 - Indicators
 - Solids

Workbench 1

Distilled H₂O

1M H₂SO₄

Graduated Cylinder 250mL Erlenmeyer Flask

Solution Info.

Name: 10mL_Graduated Cylinder
Volume: 1.0 mL

Aqueous Solid Spectrometer

(log Molarity)

Species	Molarity
H ⁺	1.012e0
OH ⁻	9.979e-15
HSO ₄ ⁻	9.882e-1
SO ₄ ²⁻	1.179e-2

25.0°C

pH Meter

Transfer amount (mL): 1

Pour from 1M H₂SO₄ to 10mL Graduat.

15:13
24-11-2020

IVidium Chemistry Lab -- Default Lab Setup

File Edit Tools View Help

Stockroom Explorer

- Iridium Solutions
 - Distilled H₂O
 - Stock Solutions
 - Strong-acids
 - Weak-acids
 - Conjugate-acids
 - Strong-bases
 - Weak-bases
 - Conjugate-bases
 - Indicators
 - Solids

Workbench 1

1M H₂SO₄

Distilled H₂O

10mL Graduated Cylinder 250mL Erlenmeyer Flask

Solution Info.

Name: 1M H₂SO₄
Volume: 98.0 mL

Aqueous Solid Spectrometer

(log Molarity)

Species	Molarity
H ⁺	1.012e0
OH ⁻	9.979e-15
HSO ₄ ⁻	9.882e-1
SO ₄ ²⁻	1.179e-2

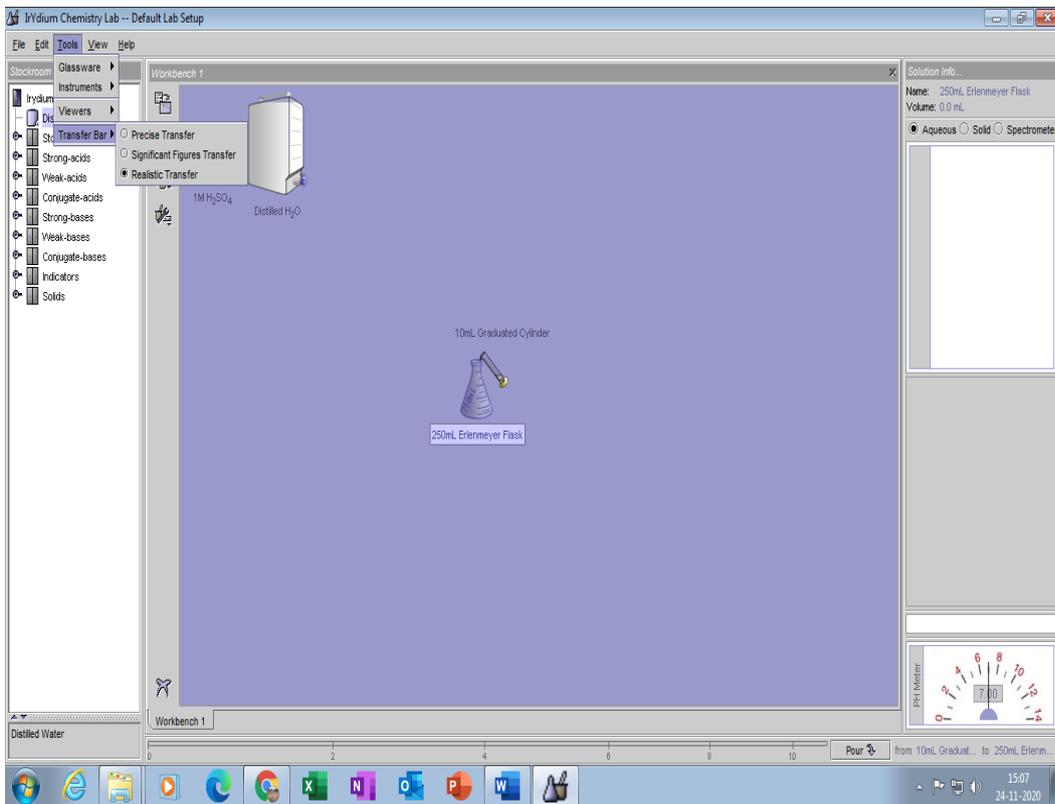
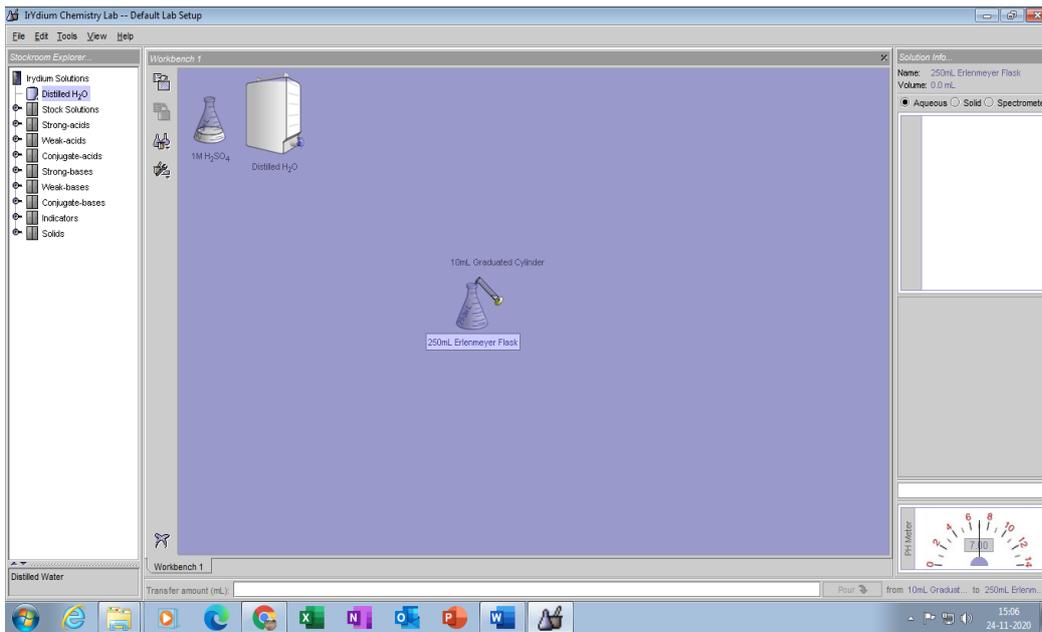
25.0°C

pH Meter

Transfer amount (mL):

Pour from to

15:06
24-11-2020



Virtual Chemistry Lab Interface - Screenshot 1

Stockroom Explorer:

- Iridium Solutions
- Distilled H₂O
- Stock Solutions
- Strong-acids
 - 10M HCl
 - 3M HCl
 - 10M HBr
 - 3M HBr
 - 3M H₂SO₄
 - 1M H₂SO₄
 - 10M H₂SO₄
 - 3M HNO₃
 - 10M HNO₃
 - 10M HCO₃
 - 3M HCO₃
 - 10M HI
 - 3M HI
 - 1M HCl
 - 0.1M HCl
- Weak-acids
- Conjugate-acids
- Strong-bases
- Weak-bases
- Conjugate-bases
- Indicators
- Solids

Workbench 1:

1M H₂SO₄ (Erlenmeyer flask)

Distilled H₂O (Bottle)

10mL Graduated Cylinder

250mL Erlenmeyer Flask

Solution Info:

Name: 250mL Erlenmeyer Flask
Volume: 1.0 mL

Aqueous Solid Spectrometer

(log Molarity)

Species	Molarity
H ⁺	1.012e0
OH ⁻	9.979e-15
HSO ₄ ⁻	9.892e-1
SO ₄ ²⁻	1.179e-2

Temperature: 24.99°C

pH Meter: -0.01

Transfer amount (mL): 0

from 10mL Graduat. to 250mL Erlenm...

Virtual Chemistry Lab Interface - Screenshot 2

Stockroom Explorer: (Same as Screenshot 1)

Workbench 1:

1M H₂SO₄ (Erlenmeyer flask)

Distilled H₂O (Bottle)

10mL Graduated Cylinder

250mL Erlenmeyer Flask

Solution Info:

Name: 250mL Erlenmeyer Flask
Volume: 1.0 mL

Aqueous Solid Spectrometer

(log Molarity)

Species	Molarity
H ⁺	1.012e0
OH ⁻	9.979e-15
HSO ₄ ⁻	9.892e-1
SO ₄ ²⁻	1.179e-2

Temperature: 24.99°C

pH Meter: -0.01

Transfer amount (mL): 99

from Distilled H₂O to 250mL Erlenm...

Virtual Chemistry Lab Interface - Screenshot 3

Stockroom Explorer: (Same as Screenshot 1)

Workbench 1:

1M H₂SO₄ (Erlenmeyer flask)

Distilled H₂O (Bottle)

10mL Graduated Cylinder

250mL Erlenmeyer Flask

Solution Info:

Name: 250mL Erlenmeyer Flask
Volume: 100.0 mL

Aqueous Solid Spectrometer

(log Molarity)

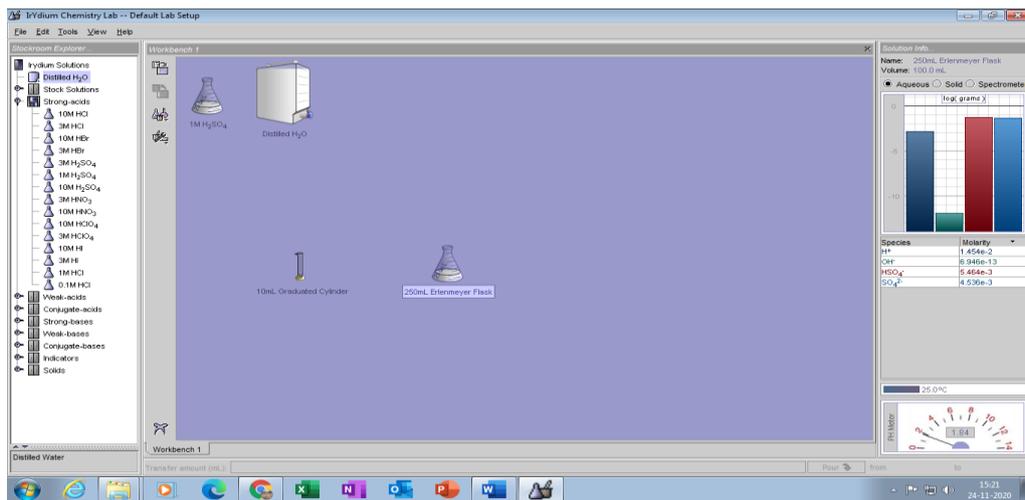
Species	Molarity
H ⁺	1.455e-2
OH ⁻	6.957e-13
HSO ₄ ⁻	5.455e-3
SO ₄ ²⁻	4.555e-3

Temperature: 25.01°C

pH Meter: 1.84

Transfer amount (mL): 99

from Distilled H₂O to 250mL Erlenm...



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