

## 2 Material & Equipment

### 2.1 Materials

Table 2.1. Materials used for the preparation and analysis of Riluzole ASD

S.No	Material	Company
1	Riluzole	Alkem Laboratories, Mumbai, India
2	Polyacrylic Acid	Lubrizole Advanced Materials
3	Polyvinylpyrrolidone Vinyl Acetate	Ashland, USA
4	Hydroxypropylmethoxy Cellulose Acetate Succinate	Ashland, USA
5	5-methoxypsoralen	Sigma Aldrich, USA
6	Dichloromethane	Finar Chemicals, Gujarat, India
7	Methanol	Finar Chemicals, Gujarat, India
8	Acetonitrile	Finar Chemicals, Gujarat, India
9	Ethylene Glycol	Rankem Chemicals, Pune, India
10	Diiodomethane	Avra Synthesis Pvt. Ltd, Bengaluru, India
11	Phosphorous Pentaoxide	CDH Pvt. Ltd, New Delhi, India

## 2.2 Equipment

Table 2.2. Materials used for the preparation and analysis of Riluzole ASD

S.No	Instruments	Company
1	Rotary Evaporator	IKA RV 10 auto pro V, Germany
2	X-Ray Diffraction	Rigaku Miniflex 600, Japan
3	Differential Scanning Calorimetry	DSC-60 Plus Shimadzu (Asia Pacific) Pte Ltd., Japan
4	Transmission Electron Microscope	Tecnai G2 20 TWIN, FEI Company of USA (S.E.A.) PTE, LTD
5	Helium Pycnometer	Smart Instruments, Mumbai, India
6	Nuclear Magnetic Resonance	Bruker BioSpin International AG, Germany
7	Solid state Nuclear Magnetic Resonance	Bruker, Karlsruhe, Germany
8	X-ray Photoelectron Spectroscopy	K-Alpha, Thermo Fisher Scientific
9	Fourier Transform Infrared Spectroscopy	Bruker, Germany
10	High Performance Liquid Chromatography	Waters Milliford, USA
11	Centrifuge	Eltec, India
12	Vortex	Fischer Scientific, USA
14	Mechanical Shaker	Khera Instruments Pvt Ltd, India
15	Magnetic Stirrer	IKA C-Mag HS 7, China
16	Hot Air Oven	Cintex, Mumbai, India

<b>S.No</b>	<b>Instruments</b>	<b>Company</b>
17	Bath Sonicator	PCI Analytics, India
18	Dissolution Apparatus	Electrolab India Ltd, India
19	Digital Electronic Balance	Schimadzu, Japan

## 2.1 Software

Table 2.3. Softwares used for the study

<b>S.No</b>	<b>Software</b>	<b>Version</b>
1	Schrodinger	2021
2	Origin 2023b	10.05
3	Image J	1.54f
4	Graph Pad Prisma	5.0
5	Mercury	4.2.0
6	Mestronova	15.0.0
7	Topspin	3.6.2 pl6 and 4.1.3
8	MCSIM	6.1.0
9	Rstudio	4.2.1