

## Department of Chemistry - Patents

Title of Investigation	Patent Type	Application Number	Status (Published/Granted)	Date of Publishing/Grant)
Portable filtration column for waste engine oil refining.	Product	202221072472	Granted	14-08-2025
Synthesis of adsorbent material zeolite 4A from the natural Kutch sourced kaolin clay	Product	202321037911	Published	02-06-2023
A novel CdS/Max Phase nanocomposites for photocatalytic mineralization of chlorpyrifos and method thereof	Product	202421052341	Published	31-01-2025
Utilizing coconut fiber as a zero-cost bio-adsorbent for sustainable dye reclamation	Product	202421052395	Published	31-05-2025
Portable zeolite-coconut husk-based filtration device for textile dye wastewater treatment	Product	202421051262	Published	03-01-2025
Process for the preparation of rGO-SnS <sub>2</sub> photocatalyst for the photodegradation of agrochemicals	Product	202421090942	Published	20-06-2025
Synthetic conversion of natural Indian kutch source kaolin clay to adsorbent zeolite Y	Product	202421052350	Published	31-01-2025
Efficient one pot synthesis of graphene-CdS nanocomposites for visible light driven photocatalytic degradation of chlorpyrifos	Product	202421051269	Published	31-01-2025
Nanocomposite Hydrogel Infused with Nanoceria and Vancomycin for Accelerated Deep Wound Healing	Product	202521039106	Published	23-04-2025

Zingene – A Topical Multifunctional Hydrogel Formulation for Effective Wound Healing	Product	202521039100	Filed	23-04-2025
Efficient conversion of thermal power plant waste coal fly ash to valorized zeolite	Product	202521038620	Filed	22-04-2025
Low-Cost, On-Site Colorimetric Detector For Paraquat In Aqueous Systems Using Ionic Liquid-Capped CDZNS Nanoparticles	Product	202521086718	Filed	12-09-2025
Process for the conversion of waste coal fly ash into industrially useful zeolite	Product	202621014829	Filed	11-02-2026
Microwave-Assisted Synthesis of Novel MXenes as Electrocatalyst for the Electrochemical Generation of Hydrogen	Process	202421052458	Published	07-02-2025
Synthesis Process for Ti and Non-Ti-Based MXenes for Electrochemical Generation of Hydrogen	Process	202421090898	Published	06-06-2025
Method for Developing Heterostructured Co-NiSe <sub>2</sub> Nanorods on MXene nanosheet as Synergistic Electrode Material for Supercapacitors	Process	202521086269	Filed	11-09-2025
Tailored Two-Dimensional MXene Nanostructures as Electrocatalysts for Hydrogen Evolution in Alkaline Media	Process	202521107322	Filed	10-11-2025
MACHINE LEARNING BASED SINGLE-CELL RNA SEQUENCING FOR TARGETED ANTICANCER DRUG DISCOVERY	Process	202421052344	Published	31-01- 2025

Copper silicate chemobronic based memristor device	Process	202421010847	Published	16-02-2024
Chemiresistive sensors based on conducting polymer for the detection of harmful gases at room temperature	Process	202221052306	Published	15/09/2023
Analytical System to monitor the color/texture of samples under variable operational conditions	Process	202221072462	Published	17/02/23
Preparation of iron oxide impregnated photoactive geopolymeric blocks for adsorption application	Process	202421051690	Published	05-07-2024
A novel cost effective methodology for estimating the volume proportion of individual propanol isomers in their liquid phase mixtures	Process	20242105151	Published	05-07-2024
Selective detection of ammonia and aliphatic amines over alcohols using chemiresistive polyaniline,	Process	202421090505	Published	21-11-2024.
Non-enzymatic working electrode and strip sensor for electrochemical detection of phenol in water	Process	202421090828	Published	22-11-2024
Facemask with detachable fragrance strip	Design	347173-002	Filed	02-08-2021