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### Application Details

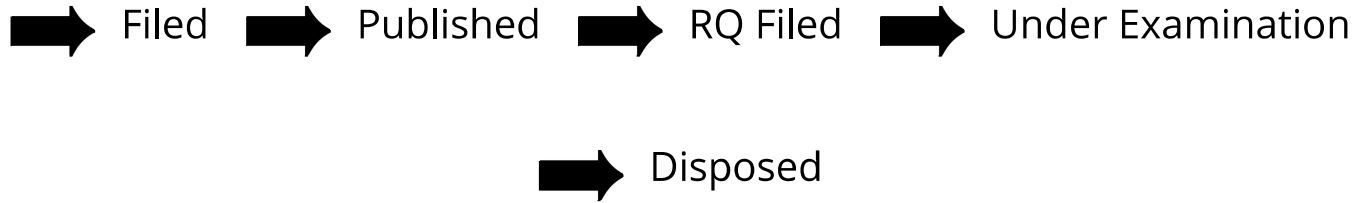
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TITLE OF INVENTION	METHOD FOR THE SYNTHESIS OF MIXED METAL NANOSCALE COMPOSITES USING LOW COST PRECURSORS
FIELD OF INVENTION	MECHANICAL ENGINEERING
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(54) Title of the invention : METHOD FOR THE SYNTHESIS OF MIXED METAL NANOSCALE COMPOSITES USING LOW COST PRECURSORS

<p>(51) International classification :B82Y0030000000, C08K0003360000, C22B0003040000, B01J0037030000, B82Y0020000000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :  <b>1)Dr. Wasudeo Balaji Gurnule</b>  Address of Applicant :Professor, Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur, Maharashtra, India, Pincode: 440024 -----  <b>2)Dr. G. Kanthimathi</b>  <b>3)Dr. B. Kalyani</b>  <b>4)Dr. R. Sivakumar</b>  <b>5)Dr. Kurapati Swarnalatha</b>  <b>6)Dr. M V V Ramanjaneyulu</b>  <b>7)Dr. K. Jagadeesh</b>  <b>8)Dr. K Ganesh Kadiyala</b>  <b>9)Dr. Ashok Bhogi</b>  <b>10)Dr. Boora Srinivas</b>  Name of Applicant : NA  Address of Applicant : NA  (72)Name of Inventor :  <b>1)Dr. Wasudeo Balaji Gurnule</b>  Address of Applicant :Professor, Department of Chemistry, Kamla Nehru Mahavidyalaya, Nagpur, Maharashtra, India, Pincode: 440024 -----  <b>2)Dr. G. Kanthimathi</b>  Address of Applicant :Associate Professor, Department of Chemistry, Ramco Institute of Technology, Rajapalayam, Tamil Nadu, India, Pincode: 626117 -----  <b>3)Dr. B. Kalyani</b>  Address of Applicant :Assistant Professor of Physics, University College of Science, Osmania University, Saifabad, Hyderabad, Telangana, India, Pincode: 500004 -----  <b>4)Dr. R. Sivakumar</b>  Address of Applicant :Assistant Professor, Department of Chemistry, Hindusthan Institute of Technology, Coimbatore, Tamilnadu, India, Pincode: 641032 -----  <b>5)Dr. Kurapati Swarnalatha</b>  Address of Applicant :Associate Professor, Department of Chemistry, CH.S.D.ST.THERESAS College for Women, Eluru, West Godavari, Andhra Pradesh, India, Pincode: 534002 -----  <b>6)Dr. M V V Ramanjaneyulu</b>  Address of Applicant :Lecturer in Chemistry, Sri ASNM Govt Degree college (A), Palakol, Andhra Pradesh, India, Pincode: 534260 -----  <b>7)Dr. K. Jagadeesh</b>  Address of Applicant :Associate professor &amp; HoD, Department of Chemistry, Shri Vishnu Engineering college for Women, Bhimavaram, West Godavari, Andhra Pradesh, India, Pincode: 534202 -----  <b>8)Dr. K Ganesh Kadiyala</b>  Address of Applicant :Associate Professor, Department of Chemistry, Shri Vishnu Engineering College for Women, Bhimavaram, West Godavari, Andhra Pradesh, India, Pincode: 534202 -----  <b>9)Dr. Ashok Bhogi</b>  Address of Applicant :Assistant Professor, Department of H&amp;S (Physics), VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, Telangana, India, Pincode: 500090. -----  <b>10)Dr. Boora Srinivas</b>  Address of Applicant :Assistant Professor, Department of H&amp;S (Physics), VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, Telangana, India, Pincode: 500090 -----</p>
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(57) Abstract :

Based on noble metals (Fe, Co, and Sn) and titanium, a straightforward sol-gel approach for the synthesis of bi-metal nanostructures has been developed. In this process, the synthesis of mixed metal nanoscale composites is accomplished via low-cost precursors that enable the synthesis of desirable nanocomposite materials with self-scarifying titanium or silica supports. Surfactants are not required, nor is there a need for a pH-controlled stage in operation. The in-situ synthesis of precursors and their simultaneous trapping in a gel are the key components of the applicants' technique. This easy one-pot synthesis enables the synthesis of specific nanostructures with homogeneous size, shape, and distribution due to the use of a single reaction vessel. Furthermore, this process may be used to manufacture a variety of nanocomposite materials employing a variety of metals and self-scarifying supports, depending on the application. In addition, the applicants demonstrate that Pd, the noble metal-based nanocomposite, is a viable option.

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