## CONTENTS

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Topic</th>
<th>Page no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Books</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Book chapters</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Review articles</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Structural Ceramics</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>Catalysts</td>
<td>33</td>
</tr>
<tr>
<td>6.</td>
<td>Optical Materials</td>
<td>90</td>
</tr>
<tr>
<td>7.</td>
<td>Electroceramics</td>
<td>155</td>
</tr>
<tr>
<td>8.</td>
<td>Energy Materials</td>
<td>208</td>
</tr>
<tr>
<td>9.</td>
<td>Miscellaneous</td>
<td>234</td>
</tr>
<tr>
<td>10.</td>
<td>Patents</td>
<td>273</td>
</tr>
</tbody>
</table>

**Appendix**

- Ph.D. Theses on Solution combustion synthesis from Indian Institute of Science | 282
While preparing the bibliography from Scopus and Web of Science database, the keywords for the subject were used. In the process some papers might have been missed or repeated more than once. The authors would like to apologize for this lapse. Papers of particular interest, published on solution combustion synthesis have been highlighted as: interesting (*), very interesting(**) and of special interest (***) . Papers cited more than 100 times have been highlighted.
1. Books


*Comprehensive account of all the work on SCS carried out at Indian Institute of Science, Bengaluru.*


2. Book Chapters


3. Review articles


6)*** Aruna, S.T., Mukasyan, A.S., Combustion synthesis and nanomaterials (2008) *Current Opinion in Solid State and Materials Science, 12* (3-4), pp. 44-50. *(No. of citations = 483)* **This review article described the developments and trends in combustion science towards the synthesis of nanomaterials with emphasis on various applications of combustion synthesized nanosized products**

7)*** Rajeshwar, K., De Tacconi, N.R., Solution combustion synthesis of oxide semiconductors for solar energy conversion and environmental remediation (2009) *Chemical Society Reviews, 38* (7), pp. 1984-1998. *(No. of citations =148)* **This review article summarizes the research on the solution combustion synthesis of oxide semiconductors for applications related to photovoltaic solar energy conversion, photoelectrochemical hydrogen generation, and heterogeneous photocatalytic remediation of environmental pollutants**

8)***Hegde, M.S., Madras, G., Patil, K.C., Noble metal ionic catalysts (2009) *Accounts of Chemical Research, 42* (6), pp. 704-712. *(No. of citations =205)* **This account describes the role of SCS method for synthesizing noble metal ions substituted in ceria and their catalytic properties. Application of this catalyst as three-way catalyst for auto exhaust as well as H2-O2 recombination at room temperature forming water.**


10)* Bera, P., Hegde, M.S., Recent advances in auto exhaust catalysis (2010) *Journal of the Indian Institute of Science, 90* (2), pp. 299-305. *(No. of citations =25)* **This review documents**
**SCS approach of substituting metal ions over CeO₂ and TiO₂ by solution combustion technique resulting in Ce₁₋ₓMₓO₂₋₅ and Ti₁₋ₓMₓO₂₋₅ (M = Pd, Rh and Pt) catalysts.**


15) ***Li, F.-T., Ran, J., Jaronec, M., Qiao, S.Z., Solution combustion synthesis of metal oxide nanomaterials for energy storage and conversion (2015) Nanoscale, 7 (42), pp. 17590-17610. (No. of citations = 98) This review summarizes the synthesis of various metal oxide nanomaterials and their applications for energy conversion and storage, including lithium-ion batteries, supercapacitors, hydrogen and methane production, fuel cells and solar cells.


17) ***Varma, A., Mukasyan, A.S., Rogachev, A.S., Manukyan, K.V., Solution combustion synthesis of nanoscale materials (2016) Chemical Reviews, 116 (23), pp. 14493-14586. (No. of citations = 137) This is the latest review on SCS with 792 references which focuses on the analysis of new approaches and results in the field of versatile SCS. It describes the basic principles for controlling the composition, structure of SCS products, routes to regulate the size and morphology of the nanomaterials and several application categories of SCS produced materials.


4. Structural Ceramics

Alumina and related oxides


Zirconia and related oxides


29) Lei, Z., Zhu, Q.-S., Solution combustion synthesis and characterization of nanocrystalline La\textsubscript{0.6}Sr\textsubscript{0.4}Co\textsubscript{0.2}Fe\textsubscript{0.8}O\textsubscript{3-δ} cathode powders (2007) Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica, 23 (2), pp. 232-236.


31) Tahmasebi, K., Paydar, M.H., The effect of starch addition on solution combustion synthesis of Al\textsubscript{2}O\textsubscript{3}-ZrO\textsubscript{2} nanocomposite powder using urea as fuel (2008) Materials Chemistry and Physics, 109 (1), pp. 156-163.


36) Reddy, B.M., Reddy, G.K., Ganesh, I., Ferreira, J.M.F., Microwave-assisted synthesis and structural characterization of nanosized Ce$_{0.5}$Zr$_{0.5}$O$_2$ for CO oxidation (2009) *Catalysis Letters*, 130 (1-2), pp. 227-234.


International Conference and Exhibition of the European Ceramic Society 2009, 2, pp. 574-578.


50) Vijaya Lakshmi, V., Bauri, R., Phase formation and ionic conductivity studies on ytterbia co-doped scandia stabilized zirconia (0.9ZrO$_2$-0.09Sc$_2$O$_3$-0.01Yb$_2$O$_3$) electrolyte for SOFCs (2011) Solid State Sciences, 13 (8), pp. 1520-1525.


71) Singhania, A., Gupta, S.M., Low-temperature CO oxidation over Cu/Pt co-doped ZrO\textsubscript{2} nanoparticles synthesized by solution combustion (2017) *Beilstein Journal of Nanotechnology*, 8 (1), art. no. 156.


75) Prakashbabu, D., Ramalingam, H.B., Krishna, R.H., Nagabhushana, B.M., Shivakumara, C., Munirathnam, K., Ponkumar, S., A potential white light emitting cubic ZrO\textsubscript{2}:Dy\textsuperscript{3+}, Li\textsuperscript{+} nano phosphors for solid state lighting applications (2017) *Journal of Luminescence*, 192, pp. 496-503.


78) Lokesha, H.S., Chauhan, N., Nagabhushana, K.R., Singh, F., Dosimetric properties of ZrO\textsubscript{2} and ZrO\textsubscript{2}:Sm\textsuperscript{3+} exposed to beta rays (2018) *Ceramics International*, 44, pp. 18871-18877


Cordierite, Mullite, NASICON and Synroc Materials


Chromites

1) Chick, L.A., Pederson, L.R., Maupin, G.D., Bates, J.L., Thomas, L.E., Exarhos, G.J., Glycine-nitrate combustion synthesis of oxide ceramic powders (1990) Materials Letters, 10 (1-2), pp. 6-12. (No. of citations = 998) This is the first paper which demonstrated the use of glycine as fuel and henceforth the process is most popularly known as glycine nitrate process (GNP process).


4) Manoharan, S.S., Patil, K.C., Combustion synthesis of metal chromite powders (1992) Journal of the American Ceramic Society, 75 (4), pp. 1012-1015. (No. of citations=168) This paper describes the SCS of fine-particle metal chromites (MCr₂O₄, where M = Mg, Ca, Mn, Fe, Co, Ni, Cu, and Zn)


8) Fino, D., Russo, N., Saracco, G., Specchia, V., The role of suprafacial oxygen in some perovskites for the catalytic combustion of soot (2003) Journal of Catalysis, 217 (2), pp. 367-375. (No. of citations=228) This paper highlights the SCS of high specific-surface-area bulk perovskites (18–25 m2/g) as catalysts for the combustion of soot.


11) Biamino, S., Badini, C., Combustion synthesis of lanthanum chromite starting from water solutions: Investigation of process mechanism by DTA-TGA-MS (2004) Journal of the European Ceramic Society, 24 (10-11), pp. 3021-3034. (No. of citations=106) *The mechanism of combustion synthesis of lanthanum chromite was investigated by carrying out simultaneous differential thermal analysis (DTA), thermal-gravimetric analysis (TGA) and quadrupole mass spectrometry measurements (MS).*


38) Bonet, A., Travitzky, N., Greil, P., Synthesis of LaCrO$_3$ and La$_{0.9}$Ca$_{0.1}$CrO$_3$ by modified glycine nitrate process (2014) *Journal of Ceramic Science and Technology*, 5 (2), pp. 93-100.


Ln$_{1-x}$M$_x$Cr$_{0.9}$Ni$_{0.1}$O$_3$ (Ln = La and/or Nd; M = Sr and/or Ca; $x \leq 0.25$) perovskites for SOFCs anodes (2018) *Ceramics International*, 44 (2), pp. 2240-2248.

5. Catalysts


9) Bera, P., Aruna, S.T., Patil, K.C., Hegde, M.S., Studies on Cu/CeO₂: A new NO reduction catalyst (1999) *Journal of Catalysis*, 186 (1), art. no. jcat.1999.2532, pp. 36-44. *(No. of citations=146) Fine particle and large surface area Cu/CeO₂ catalysts of crystallite sizes in the range of 100–200 Å were synthesized by SCS ans were investigated for NO reduction.*


This paper highlights the importance of adding \( \text{NH}_4\text{NO}_3 \) to get rid off the carbonaceous matter formed during the SCS of LaMnO\(_3\) using urea as fuel.


37) Gayen, A., Priolkar, K.R., Sarode, P.R., Jayaram, V., Hegde, M.S., Subbanna, G.N., Emura, S., Ce\(_{1-x}\)Rh\(_x\)O\(_{2-\delta}\) solid solution formation in combustion-synthesized Rh/CeO\(_2\) catalyst studied by XRD, TEM, XPS, and EXAFS (2004) *Chemistry of Materials*, 16 (11), pp. 2317-2328.

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Nanosize WO$_3$ powder was synthesized by SCS.


62) Baidya, T., Gayen, A., Hegde, M.S., Ravishankar, N., Dupont, L., Enhanced reducibility of Ce$_{1-x}$Ti$_x$O$_2$ compared to that of CeO$_2$ and higher redox catalytic activity of Ce$_{1-x}$Ti$_x$Pt$_x$O$_{2-\delta}$ compared to that of Ce$_{1-x}$Pt$_x$O$_{2-\delta}$ (2006) *Journal of Physical Chemistry B*, 110 (11), pp. 5262-5272.


67) Fino, D., Russo, N., Saracco, G., Specchia, V.M., Catalytic removal of NOx and diesel soot over nanostructured spinel-type oxides (2006) *Journal of Catalysis*, 242 (1), pp. 38-47. *(No. of citations=135)* This study showed that the activity order for soot combustion was $\text{CoCr}_2\text{O}_4 > \text{MnCr}_2\text{O}_4 > \text{CoFe}_2\text{O}_4$, whereas the activity order for NO$_x$ reduction was $\text{CoFe}_2\text{O}_4 > \text{CoCr}_2\text{O}_4 > \text{MnCr}_2\text{O}_4$.


70) Sharma, S., Hegde, M.S., Single step direct coating of 3-way catalysts on cordierite monolith by solution combustion method: High catalytic activity of $\text{Ce}_{0.98}\text{Pd}_{0.02}\text{O}_{2-\delta}$ (2006) *Catalysis Letters*, 112 (1-2), pp. 69-75.

71) Gayen, A., Baidya, T., Biswas, K., Roy, S., Hegde, M.S., Synthesis, structure and three way catalytic activity of $\text{Ce}_{1-x}\text{Pt}_x\text{Rh}_{2}\text{O}_{2-\delta}$ (x = 0.01 and 0.02) nano-crystallites: Synergistic effect in bimetal ionic catalysts (2006) *Applied Catalysis A: General*, 315, pp. 135-146.


81) Baidya, T., Marimuthu, A., Hegde, M.S., Ravishankar, N., Madras, G., Higher catalytic activity of nano-Ce$_{1-x-y}$Ti$_x$Pd$_y$O$_{2-\delta}$ compared to nano-Ce$_{1-x}$Pd$_x$O$_{2-\delta}$ for CO oxidation and N$_2$O and NO reduction by CO: Role of oxide ion vacancy (2007) *Journal of Physical Chemistry C*, 111 (2), pp. 830-839.


84) Roy, S., Marimuthu, A., Hegde, M.S., Madras, G., High rates of CO and hydrocarbon oxidation and NO reduction by CO over Ti$_{0.99}$Pd$_{0.01}$O$_{1.99}$ (2007) *Applied Catalysis B: Environmental*, 73 (3), pp. 300-310.


97) Liu, W., Luo, L., Min, W., Effect of stoichiometric ratio of organic fuel to oxidizer on performance of La$_{0.8}$Sr$_{0.2}$CoO$_3$ catalysts in methane combustion (2007) Petrochemical Technology, 36 (11), pp. 1093-1098.


124) Baidya, T., Gupta, A., Deshpandey, P.A., Madras, G., Hegde, M.S., high oxygen storage capacity and high rates of co oxidation and no reduction catalytic properties of Ce1-xSnxO2 and Ce0.78Sn0.2Pd0.02O2-δ (2009) Journal of Physical Chemistry C, 113 (10), pp. 4059-4068.


129) Reddy, B.M., Reddy, G.K., Ganesh, I., Ferreira, J.M.F. Microwave-assisted synthesis and structural characterization of nanosized Ce$_{0.5}$Zr$_{0.5}$O$_2$ for CO oxidation (2009) *Catalysis Letters*, 130 (1-2), pp. 227-234.


131) Ding, J., Luo, L. Preparation of spinel type Co$_{0.7}$Ce$_{0.3}$Co$_2$O$_4$ catalysts and their catalytic performances in methane combustion (2009) *Xiyou Jinshu / Chinese Journal of Rare Metals*, 33 (3), pp. 386-390.


142) Gupta, A., Kumar, A., Waghmare, U.V., Hegde, M.S., Origin of activation of lattice oxygen and synergistic interaction in bimetal-ionic Ce$_{0.89}$Fe$_{0.1}$Pd$_{0.01}$O$_{2-\delta}$ catalyst (2009) Chemistry of Materials, 21 (20), pp. 4880-4891.


147) Bensaid, S., Russo, N., Fino, D., Saracco, G., Specchia, V., Diesel particulate traps based on Li-Cr delafossite soot-combustion catalysts (2009) 8th World Congress of Chemical Engineering: Incorporating the 59th Canadian Chemical Engineering Conference and the 24th Interamerican Congress of Chemical Engineering, pp. 522bc.


152) Jiang, H., Nagai, M., Kobayashi, K. Enhanced photocatalytic activity for degradation of methylene blue over V$_2$O$_5$/BiVO$_4$ composite (2009) *Journal of Alloys and Compounds*, 479 (1-2), pp. 821-827. (*No. of citations= 111*) *This paper describes the synthesis of V$_2$O$_5$/BiVO$_4$ composite photocatalysts by the one-step SCS method.*


164) Wu, Y.-H., Luo, L.-T., Liu, W., Catalytic properties of La_{0.8}Sr_{0.2}Co_{0.5}M_{0.5}O_{3} (M = Co, Ni, Cu) in methane combustion (2010) Russian Journal of Physical Chemistry A, 84 (3), pp. 405-408.


183) Ziaei-Azad, H., Khodadadi, A., Esmaeilnejad-Ahranjani, P., Mortazavi, Y., Effects of Pd on enhancement of oxidation activity of LaBO₃ (B=Mn, Fe, Co and Ni) pervoskite catalysts for


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Mukri, B.D., Dutta, G., Waghamare, U.V., Hegde, M.S., Activation of lattice oxygen of TiO_{2} by Pd^{2+} ion: Correlation of low-temperature CO and hydrocarbon oxidation with structure of Ti_{1-x}Pd_{x}O_{2-δ} (x=0.01-0.03) (2012) *Chemistry of Materials*, 24 (23), pp. 4491-4502.


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259) Baidya, T., Bernhard, A., Elsener, M., Kröcher, O., Hydrothermally stable \( \text{WO}_3/\text{ZrO}_2-\text{Ce}_{0.6}\text{Zr}_{0.4}\text{O}_2 \) catalyst for the selective catalytic reduction of NO with \( \text{NH}_3 \) (2013) *Topics in Catalysis*, 56 (1-8), pp. 23-28.


264) Mistri, R., Llorca, J., Ray, B.C., Gayen, A., \( \text{Pd}_{0.01}\text{Ru}_{0.01}\text{Ce}_{0.98}\text{O}_{2-\delta} \): A highly active and selective catalyst for the liquid phase hydrogenation of p-chloronitrobenzene under ambient conditions (2013) *Journal of Molecular Catalysis A: Chemical*, 376, pp. 111-119.


269) Mukri, B.D., Waghmare, U.V., Hegde, M.S., Platinum ion-doped \( \text{TiO}_2 \): High catalytic activity of \( \text{Pt}^{2+} \) with Oxide Ion Vacancy in \( \text{Ti}^{4+}\text{Pt}_{3-x}\text{O}_{2-x} \) Compared to \( \text{Pt}^{4+} \) without Oxide Ion Vacancy in \( \text{Ti}^{4+}\text{Pt}_{3+x}\text{O}_2 \) (2013) *Chemistry of Materials*, 25 (19), pp. 3822-3833.


291) Chen, T., Lin, H., Cao, Q., Huang, Z., Solution combustion synthesis of Ti₀.75Ce₀.15Cu₀.05W₀.05O₂₋δ for low temperature selective catalytic reduction of NO (2014) RSC Advances, 4 (109), pp. 63909-63916.


295) Mistri, R., Rahaman, M., Llorca, J., Priolkar, K.R., Colussi, S., Ray, B.C., Gayen, A., Liquid phase selective oxidation of benzene over nanostructured Cu$_x$Ce$_{1-x}$O$_{2-y}$ ($0.03 \leq x \leq 0.15$) (2014) *Journal of Molecular Catalysis A: Chemical*, 390, pp. 187-197.


330)Piumetti, M., Fino, D., Russo, N., Mesoporous manganese oxides prepared by solution combustion synthesis as catalysts for the total oxidation of VOCs (2015) *Applied Catalysis B: Environmental*, 163, pp. 277-287. (No. of citations=104) Three mesoporous manganese oxide catalysts (Mn$_2$O$_3$, Mn$_3$O$_4$ and Mn$_x$O$_y$) have been prepared by SCS and Mn$_3$O$_4$ showed better catalytic activity.


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387) Maiti, S., Llorca, J., Dominguez, M., Colussi, S., Trovarelli, A., Priolkar, K.R., Aquilanti, G., Gayen, A., Combustion synthesized copper-ion substituted FeAl$_2$O$_4$ (Cu$_{0.1}$Fe$_{0.9}$Al$_2$O$_4$): A superior catalyst for methanol steam reforming compared to its impregnated analogue (2016) *Journal of Power Sources*, 304, pp. 319-331.


410) Xiao, J., Wang, W., Luo, D., Zhang, J., Purification of PM and NO\textsubscript{x} using LiCo\textsubscript{0.9}O\textsubscript{2} catalyst and non-thermal plasma coordination (2016) *Huazhong Keji Daxue Xuebao (Ziran Kexue Ban)/Journal of Huazhong University of Science and Technology (Natural Science Edition)*, 44 (9), pp. 129-132.

411) Cao, Q.-H., Lin, H., Guan, B., Chen, T., Investigation of TiCe\textsubscript{0.2}W\textsubscript{0.2}O\textsubscript{x} coating for selective catalytic reduction (2016) *Neiranji Gongcheng/Chinese Internal Combustion Engineering*, 37 (5), pp. 86-92.


413) Mahammadunnisa, S.K., Akanksha, T., Krishnamurty, K., Subrahmanyam, C. Catalytic decomposition of N\textsubscript{2}O over CeO\textsubscript{2} supported Co\textsubscript{3}O\textsubscript{4} catalysts (2016) *Journal of Chemical Sciences*, 128 (11), pp. 1795-1804.


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437) Singhania, A., Gupta, S.M., Low-temperature CO oxidation over Cu/Pt co-doped ZrO2 nanoparticles synthesized by solution combustion (2017) Beilstein Journal of Nanotechnology, 8 (1), art.no. 156.


465) Kumar, A., Rout, L., Achary, L.S.K., Dhaka, R.S., Dash, P., Greener Route for Synthesis of aryl and alkyl-14H-dibenzo [a.j] xanthenes using Graphene Oxide-Copper Ferrite
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479) Mukri, B.D., Hegde, M.S., High rates of catalytic hydrogen combustion with air over Ti$_{0.97}$Pd$_{0.03}$O$_{2-δ}$ coated cordierite monolith (2017) *Journal of Chemical Sciences*, 129 (9), pp. 1363-1372.


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Pandey, A., Jain, G., Vyas, D., Irusta, S., Sharma, S. Nonreducible, basic La$_2$O$_3$ to reducible, acidic La$_{2-x}$Sb$_x$O$_3$ with significant oxygen storage capacity, lower band gap, and effect on the catalytic activity (2017) *Journal of Physical Chemistry C*, 121 (1), pp. 481-489.


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513) Dwivedi, R., Sharma, P., Sisodiya, A., Batra, M.S., Prasad, R., A DFT-assisted mechanism for evolution of the ammoxidation of 2-chlorotoluene (2-CLT) to 2-chlorobenzonitrile (2-CLBN) over alumina-supported V$_2$O$_5$ catalyst prepared by a solution combustion method (2017) *Journal of Catalysis*, 345, pp. 245-257.


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615) Devaraji, P., Jo, W.-K., Noble metal free Fe and Cr dual-doped nanocrystalline titania (Ti$_{1-x-y}$M$_{x+y}$O$_2$) for high selective photocatalytic conversion of benzene to phenol at ambient temperature (2018) *Applied Catalysis A: General*, 565, pp. 1-12.
6. Optical Materials

Phosphors


3) Shea, L.E., McKittrick, J., Lopez, O.A., Sluzky, E., Synthesis of red-emitting, small particle size luminescent oxides using an optimized combustion process (1996) Journal of the American Ceramic Society, 79 (12), pp. 3257-3265. (No. of citations=262) In this paper, the effects of processing parameters such as type of fuel, fuel to oxidizer ratio, furnace temperature, and batch water content were studied.


composition for maximum blue emission was found to be \( Y_{2.93}Tm_{0.07}Al_{5}O_{12} \) doped with 1.0 at% Li.


17) McKittrick, J., Shea, L.E., Bacalski, C.F., Bosze, E.J., The influence of processing parameters on luminescent oxides produced by combustion synthesis (1999) *Displays*, 19 (4), pp. 169-172. (No. of citations=209) *This paper describes the fabrication of complex host phosphor compositions such as \( Y_2SiO_5 \), \( Y_3Al_5O_{12} \), \( Y_2O_3 \), and \( BaMgAl_{10}O_{27} \) along with controlled amounts of the activators \( Cr^{3+}, Mn^{2+}, Ce^{3+}, Eu^{2+}, Eu^{3+}, Tb^{3+}, Tm^{3+} \).*


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146


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MgO and related oxides


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10. Patents on Solution Combustion

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44) Synthesizing nanocrystalline metal powders comprises forming combustion synthesis solution by dissolving an oxidizer, fuel and base-soluble ammonium salts of e.g. tungsten and rhenium in water, and heating combustion synthesis solution, Frye J G, Weil K S, Lavender C A, Kim J Y, Battelle Memorial Inst(Batt-C), Frye J G(Frye-Individual), Weil K


49) Preparing tungsten powder doped with nano rare earth oxide, comprises e.g. preparing raw material powder by taking analytical grade partial ammonium tungstate, rare earth nitrate, fuel and complexing agent, and mixing components, Liu Y, Qu X, Zhang L, Qin M, Univ Beijing Sci & Technology(Unbs-C), CN102626785-A ; CN102626785-B, 2012.

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54) Combustion synthesis for mesoporous nanocrystalline alkali promoted alkaline earth metal oxide involves dissolving metal precursors and fuel in distilled water, evaporating excess water, and combustion of resultant mixture, Prasad S S, Pawar S V, Yadav G D, Surve P S, Yadav G D (Yada-Individual), WO2013171755-A2; IN201201111-I3; IN201201112-I3; WO2013171755-A3, 2013-V14575

55) Microwave combustion synthesis of magnesium oxide/yttrium oxide nanopowder by preparing ternary system from any of yttrium nitrate, magnesium nitrate, palladium acetate and magnesium acetate, mixing with water and microwave combusting, Gong H, Li T, Tan S, Sun H, Zhang Y, Univ Shandong (Usa-C), CN103951392-A; CN103951392-B, 2014-S95399

56) Catalyst used for dimethyl oxalate vapor phase hydrogenation of ethylene glycol and glycolic acid methyl ester comprises soluble copper salt, metal salt containing other metals, and nano-titanium dioxide as catalyst carrier, Dai W, Chen X, Cui Y, Wang B, Wen C, Univ Fudan (Uyfu-C), CN104492445-A, 2015-34176Q


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62) Production process of lithium-manganese-oxide (LMO) spinel material for use in electrochemical cell, involves annealing raw LMO material or treated material to obtain annealed material which is subjected to microwave treatment, Nkosi F, Ozoemena K I, Ozoemena K, Council Sci & Ind Res South Africa(Coul-C) Council Sci & Ind Res India(COUI-C), WO2016070205-A2 ; WO2016070205-A3 ; CA2966361-A1 ; IN201747018448-A ; KR2017078791-A ; CN107108260-A ; EP3212578-A2 ; JP2018500722-W, 2016.


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69) Preparation of ultrafine-crystalline tungsten-based gas spark switch electrode involves combusting ammonium metatungstate, ammonium nitrate, glycine and rare-earth oxide, mixing
nano tungsten powder and binder and sintering mixture, Qin M, Chen Z, Chen P, Li R, Wu H, Jia B, Qu X, Univ Beijing Sci & Technology(UNBS-C), CN107737951-A, 2018.

70) Preparing nano nickel oxide cathode material of lithium ion battery, comprises e.g. adding nickel acetate into muffle furnace, heating to predetermined temperature, maintaining the temperature for predetermined time, taking out, and cooling, Huang J, Zhao D, Zhou P, Fujian Xiangfenghua New Energy, CN107792890-A, 2018.

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Appendix

Theses on Solution combustion synthesis from Indian Institute of Science


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5) N. Arul Dhas, Studies on zirconia and related oxides: Combustion synthesis and properties (1994).


12) Parthasarathi Bera, Promoting effect of ceria in combustion synthesized M/CeO\textsubscript{2} catalysts (M= Cu, Ag, Au, Pd and Pt) for environmental catalysis (2002).


14) Arup Gayen, Synthesis of nano-Ce\textsubscript{1-x}M\textsubscript{x}O\textsubscript{2-3δ}(M=Cu, Ru, Rh, Pd And Pt) : Enhancement of redox-catalytic activity due to Mn\textsuperscript{3+}-O\textsuperscript{2-}-Ce\textsuperscript{4+} ionic interaction (2005).

15) Tinku Baidya, Synthesis, structure and redox catalytic properties of Pt and Pd ion substituted Ce\textsubscript{1-x}M\textsubscript{x}O\textsubscript{2}(M= Ti, Zr & Hf) oxygen storage capacity nano-materials (2008).
16) Sounak Roy, Noble metal and base metal ion substituted CeO$_2$ and TiO$_2$: Efficient catalysts for NO$_x$ abatement (2008).

17) Sudanshu Sharma, Gas phase and electrocatalytic reaction over Pt, Pd ions substituted CeO$_2$, TiO$_2$ catalysts and electronic interaction between noble metal ions and the reducible oxide (2009).

18) Preetam Singh, Novel synthesis of transition metal and nobel metal ion substituted CeO$_2$ and TiO$_2$ nanocrystallites for hydrogen generation and electro-chemical applications (2010).

19) A. Gupta, Structure and oxygen storage capacity of Ce$_{1-x}$M$_x$O$_{2-δ}$ (M= Sn, Zr, Mn, Fe, Co, Ni, Cu, La, Y, Pd, Pt, Ru): Experimental and density functional theory study (2010).


22) Ujwala Ail, Thin film semiconducting metal oxides by nebulized spray pyrolysis and MOCVD, for gas-sensing applications, 2011


28) Vinayak B. Kamble, Studies on effect of defects, doping and additives on Cr$_2$O$_3$ and SnO$_2$ based metal oxide semiconductor gas sensors, 2015.


32) Disha Jain, Development of ionic catalysts for methane reforming (To be submitted).

33) Satyapaul Singh, Development of ionic catalysts for reforming (To be submitted).
34) Ch. Anil, Development of nanomaterials for energy applications (To be submitted).