Pengtian Lou

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Shizhong District, Jinan, Shandong, China, 250001

EDUCATION BACKGROUND

University of Leicester 09/2017-06/2021

Programme of Study: Chemistry BSc

Undergraduate Award: First Class Honours

Scholarship: Second-class academic scholarship

ACADEMIC INVOLVEMENT

Study on Methylation Process of Tertiary Amines (Undergraduate Capstone Project)

10/2020-06/2021

- ✓ Conducted research on the methylation reaction of tertiary amine
- ✓ Selected dimethyl carbonate (DMC), dimethyl sulfate (DMS) and other common methylation reagent
- ✓ Screened the suitable solvents and reaction conditions while combining with the characteristics of the reaction itself through multiple sets of contrast and parallel experiment.
- ✓ Chose acetone and iodomethane as solvent and methylation reagent to obtain the greatest yield of quaternary ammonium salt
- ✓ Obtained the yield results with almost 100% and 96.7% respectively of the methylation of the trimethylamine and triethylamine

Study on the Catalytic Methylation of Methanol and Amines (College Students Innovation and Entrepreneurship Project), *Project Leader* 03/2019-04/2020

- ✓ Designed and developed the synthesis ways of the required transition metal complexes and discussed the feasibility of this scheme with our supervisor
- ✓ Tried to synthesize the new transition metal complexes based on our scheme
- ✓ Applied the prepared complexes to catalyze the reaction of amines and methanol, and tested the catalytic activity of each complex, and at the same time screened other reaction conditions
- ✓ Selected the best amine and methyl reaction catalysts according to the experimental data and explored the catalytic activity laws of the transition metal complexes, while further optimizing the other reaction conditions and expanding the reaction substrate
- ✓ Processed and analyzed the experimental data, improved the catalyst structure, and optimized the experimental scheme
- ✓ Obtained the patent from the CNIPA

Literature Review of "Surface passivation of aluminum alloy 6061 with gaseous trichlorosilane: A surface investigation" 09/2018

- ✓ Introduced the framework of the paper
- ✓ Summarized the techniques and methodology including PM-IRRAS, AFM and SEM
- ✓ Brought up with comments on this paper including its advantages and imperfections

EXTRACURRUCULAR EXPERIENCE

College Modern English Drama Troupe, *Member* 09/2017-06/2020

- ✓ Participated in drama competition in our school like *Murder in the Hanging Garden*
- ✓ Managed the lighting design of the performance stage

Visit Practice of Yunnan Ancient Towns, *Leader* 11/2018

- ✓ Explored and recorded the architectural styles and people's living habits
- ✓ Summarized the whole visit and reported to our advisor

SKILLS&INTERESTS

- ✓ College English Test Band 4 and Band 6
- ✓ C Language (Primary)