

Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) Edgar Ma

Title of Project Improving CO₂ hydrogenation: Guanidine treatment over bimetallic Fe-Co catalysts

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☒ Yes ☐ No
- a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.

b. If yes, complete questions 2–5.

2. Is the student's research project a subset of your ongoing research or work? ☒ Yes ☐ No
- Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.

3. Describe the independence and creativity with which the student:
- a. developed the hypotheses or engineering goals for the research project

Edgar developed his own hypotheses during the course of the project. Goals were set for him to be completed according to what the project required and he was expected to meet them.

b. designed the methodology for his/her research project

An outline of what was required to be completed was provided. Edgar provided his own input, and designed the methodology of his project based around the outline. I ensured the methodology was valid and completed the tasks required.

c. analyzed and interpreted data

Edgar interpreted the data independently. He was given basic information on how to interpret the data, and also drew conclusions based on his own knowledge/reading of literature.

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Student's Name(s) Edgar Ma

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.


Edgar was first shown regular laboratory procedures such as our catalyst synthesis, compression, testing, and data collection. He helped perform synthesis using physical mixing and he handled all of the compression for our new catalysts. He mainly assisted in synthesis, performing both physical mixing, solvent evaporation, and wetness incipient of several catalyst which he performed under my supervision. He measured out necessary chemicals and components and was entrusted to mix catalysts on his own with supervision. He set up th hotplate and beaker for solvent extraction and was able to collect the finished product. He observed how catalysts were loaded for testing and helped perform leak checks of our gas lines.

5. Did the student(s) work on the project as part of a group? ☒ Yes ☐ No
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

Edgar worked on his project with one of my undergraduate researchers, Alexandra Leichnam, which is an extension of her work. He also assisted others in our lab group consisting of 7 other students: two graduate researchers, three undergraduate researchers including Alexandra, and two other high school interns.

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable.
I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Cheng Zhang
Supervising Adult's Printed Name


Signature

Assistant Professor of Chemistry
Title

Long Island University Post
Institution

08/02/19
Date Signed (must be after experi-
mentation) (mm/dd/yy)

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