Plan Overview

A Data Management Plan created using DMPTool

DMP ID: https://doi.org/10.48321/D15D3S

Title: DMS plan for "Design, synthesis and applications of efficient photo-cleavage"

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Template: NSF-CHE: Chemistry Division

Project abstract:

The proposed research aims to explore, synthesize, evaluate, and test photo-cleavage systems, with an emphasis on data management and accessibility. Led by the Principal Investigator (PI), the project involves a collaborative approach, engaging students in the synthesis and testing phases and involving Cristo Leon in ensuring compliance measures are met. The research is poised to produce a range of organic compounds and intermediate compounds meticulously cataloged for future use by the broader scientific community. In alignment with contemporary data management standards, the project will employ hardcopy notebooks and digital storage solutions for comprehensive data retention. The research data will be disseminated through publications in peer-reviewed scientific journals and presentations at national conferences and will also be available for free access on PubMed. Moreover, a robust archiving system involving cloud storage solutions linked to the NJIT email will be established to ensure data longevity and availability for a minimum of 10 years post-project completion.

Start date: 05-01-2024

End date: 04-30-2027

Last modified: 01-19-2024

Copyright information:

DMS plan for "Design, synthesis and applications of efficient photo-cleavage"

Synthesized organic products and intermediate compounds will be stored with detailed labels of chemical names, structure, and links to the notebook page where the reaction is conducted. These preparation methods and compound materials will be available to researchers in the community upon request. All experimental data generated will be made available to other investigators by timely publication in appropriate scientific journals and presentation of our findings at national conferences and meetings. The manuscripts will also be submitted to PubMed for accessible data access. The survey conducted in summer programs will be kept in hard copy, and the data will be reported.

Every individual who works in the lab will have a hard copy of the notebooks to record the details of the experimental procedure and result. Analysis digital instrument outputs will be saved on computers, and the graph will be printed and included in the notebooks. The cell and in vitro images will be taken and saved as TIF files for future reference, while the software ImageJ will be used for evaluation.

Dublin Core Metadata standards will be followed for citations in academic articles.

3.1 Roles and Responsibilities
Students will synthesize, evaluate, and test the photo-cleavage systems, and they will generate and store the data from the proposed project. The PI (Principal Investigator) will be the project lead for all activities related to project management, including preservation of the data before and after the student's graduation. The PI and students will work together to prepare manuscripts for publication and presentations to attend conferences.

Cristo Leon, Director of Research, CSLA (other), will assist with compliance.

3.2 Dissemination, Access, and Sharing of Data
All experimental conditions and data generated will be made available to other investigators by timely publication in appropriate scientific journals and presentation of our findings at national conferences and meetings. The manuscripts will also be submitted to PubMed for accessible data access. Meanwhile, the publication and related supporting data will be shared upon request.

The New Jersey Institute of Technology will regulate public access to research products for privacy and confidentiality concerns and to respect any proprietary or intellectual property rights. The Office of Strategic Communications & Marketing and Publications and Creative Services will be consulted to address individual concerns, if necessary. Terms of use will include proper attribution to the PI and authors with disclaimers of liability concerning any use or distribution of the research data. Research results and products will be made available after publication. Journal publications will be available online from the journal website. All data generated as a result of this project will be backed up to protect from data loss.

All notebooks will be kept in the lab for access to lab members and collaborators. Digital data will be backed up to a cloud drive (Google Drive that links to NJIT email) and a separate removable hard drive at least once every two weeks, and all group members will have access to the cloud drive (in the form of shared folders) and hard drive. In addition, big cell imaging files will be mainly backed up to a removable hard drive. Upon data backup, an accessible index will be generated to document the archived data and will be maintained for a minimum of 10 years after termination or completion of the project.

Planned Research Outputs

Physical object - "prepared organic products"

Synthesized organic products as well as intermediate compounds will be stored with detailed labels of chemical names, structure, and links to the page of the notebook where the reaction is recorded. These preparation methods and compound materials will be available to researchers in the community upon request.

Image - "cell images"

Cell images and in vitro images will be taken and saved as TIF files for future reference, while the software, ImageJ will be used for data processing and evaluation.

Text - "Dissemination Article"

The commitment to disseminate findings through scientific journals, national conferences, and open-access platforms like PubMed will ensure that the data reaches specialized researchers and becomes available for interdisciplinary applications.

Planned research output details

Title	Type	Anticipated release date	Initial access level	Intended repository(ies)	Anticipated file size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
prepared organic products	Physical object	Unspecified	Restricted	None specified		None specified	None specified	No	No
cell images	Image	Unspecified	Restricted	None specified		None specified	None specified	No	No
Dissemination Article	Text	2027-04-29	Open	None specified	5 MB	None specified	Dublin Core	No	No