



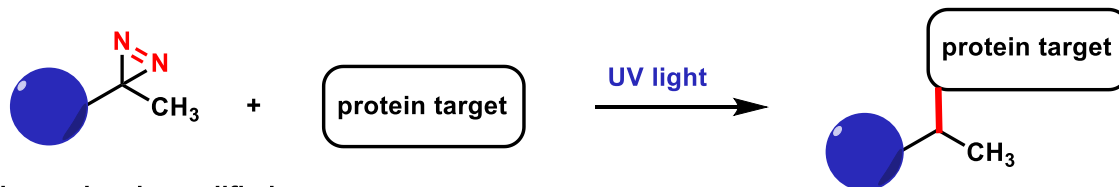
Middlebury

Exploring photoredox crosslinking for target identification

Anna Cox and Lindsay Repka. Middlebury College.

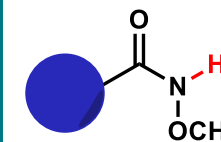


Permanent crosslinking enables identification of targets

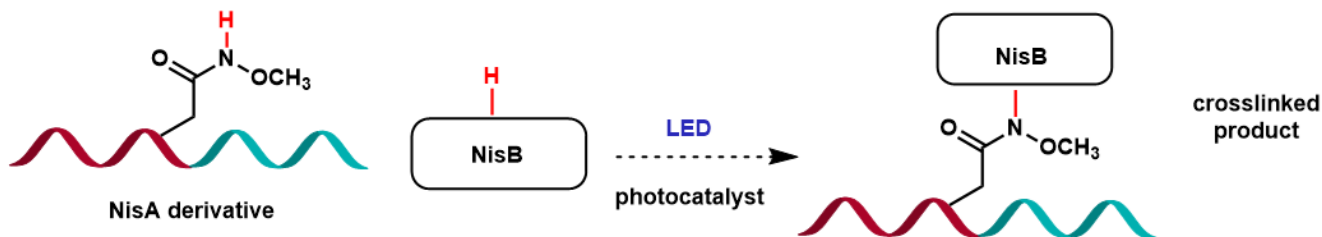


Bioactive molecule modified with UV active handle

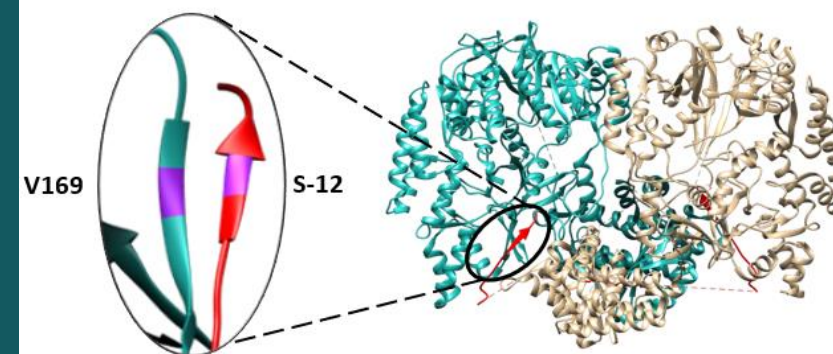
Proposed photoactive active handle



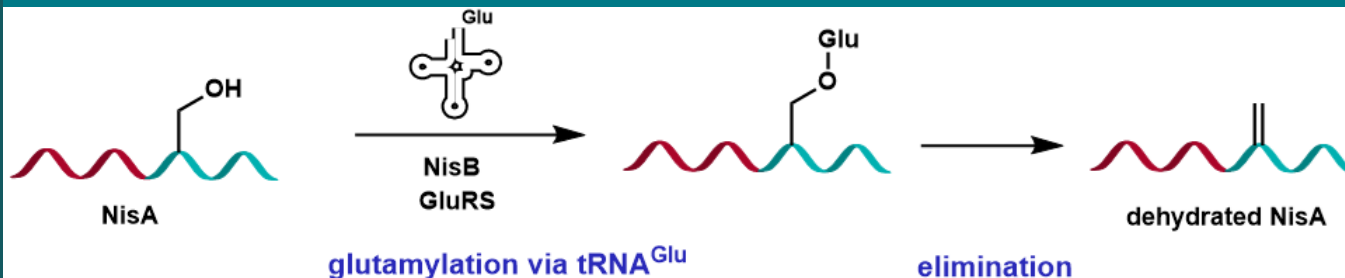
Using an enzyme and substrate to illustrate photoredox crosslinking



NisA and NisB have been crosslinked before



NisB dehydrates serine and threonine residues in NisA



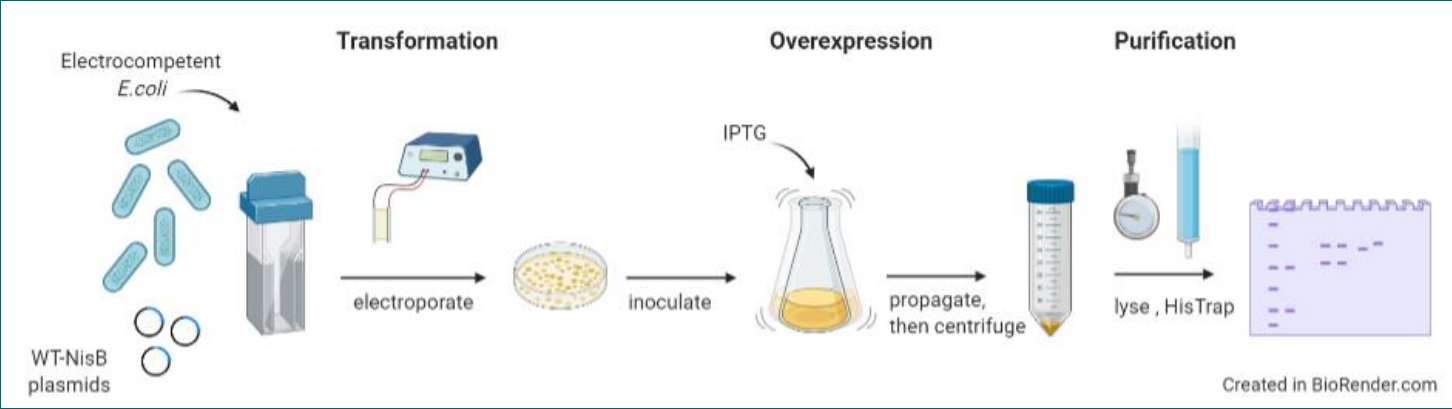
Acknowledgements

- Chemistry and Biochemistry Department at Middlebury College
- Vermont Biomedical Research Network
- Jody Smith and Caitlin Carr

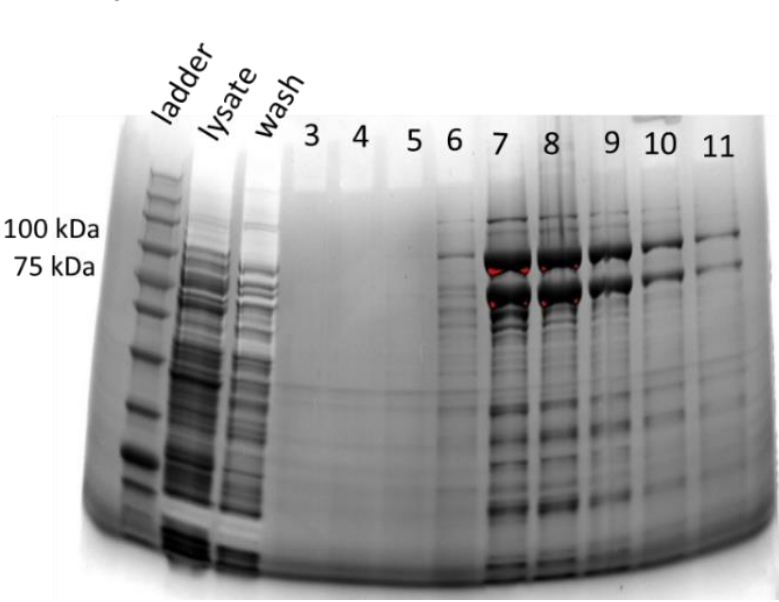
References

- Pandey, Laha. *Angew. Chem. Int. Ed.* **2015**, *54*, 14875
- Repka, Hetrick, Chee, van der Donk *J. Am. Chem. Soc.* **2018**, *140*, 4200

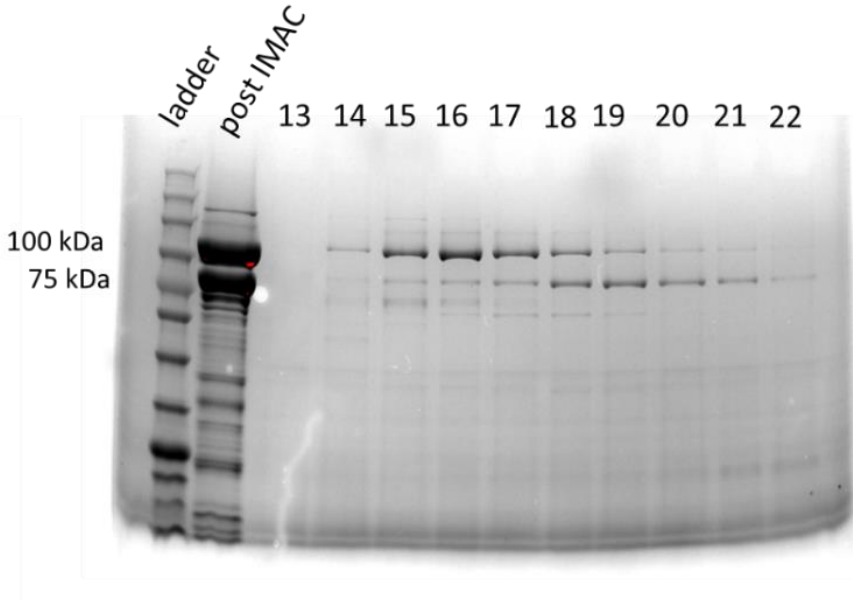
Expression and purification of NisB



NisB (118 kDa) after HisTrap purification



After size exclusion chromatography



Monitoring dehydration with LCMS

We have seen NisA dehydrated 1 -4 times, and are working to improve this efficiency

