**Lesson Plan: Lecture 16**

**Solvents: Understanding Their Role**

**Description**

In this class students will learn the roles and responsibilities that solvent have in chemical transformations. The advantage and disadvantages will be discussed followed the various categories of solvent used today. After learning about the effects of solvent use, student will be introduced to the need for alternative solvents and their role in advancing technology, humans, and the environment.

**Prior to Lecture**

Required Readings:

* Green Chemistry: Theory and Practice”, Anastas and Warner, Oxford University Press, Ch. 4 Section 5
* “CHEM21 selection guide of classical and less classical solvents” Denis Prat and et. al., Green Chem., 2016, 18, 288 <https://pubs.rsc.org/en/content/articlelanding/2016/gc/c5gc01008j#!divAbstract> (open access article) (File name: CHEM21 article\_Green Chem\_2016.pdf)

Optional/ Supplemental Readings:

* “Chemistry in Context”, 8th Edition, McGraw Hill Education. Ch. 5
* Diorazio, L. J., Hose, D. R., Adlington, N. K., Org. Process Res. Dev., 2016, 20, 760-773, <https://pubs.acs.org/doi/10.1021/acs.oprd.6b00015>

**Videos**

* Solvents video (in PowerPoint)
* [Solvents\_Introduction](https://youtu.be/cFOenexaNSw)
* [Solvents\_Why\_Use\_Solvents](https://youtu.be/QrtNiMMCMt8)
* [Solvents\_Applications](https://youtu.be/s292eRxhmms)

**Topics to Cover**

* What are solvents
* What are they used for
* Understand the advantages and disadvantages of solvent use
* Why they are important for chemistry and society
* Types of solvent characterization
* Greener Alternative to Solvents and Resources
* Solvent Selection Guides

**Class Exercise:**

* No class exercise for this lecture