Analyzing Difficult Projects: Pyroxasulfone/Mint

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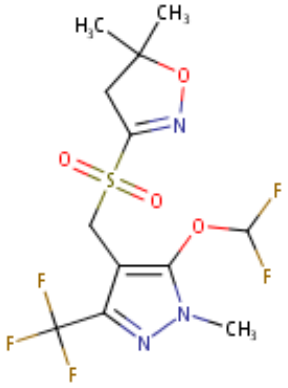
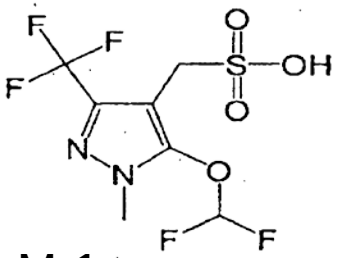
Pyroxasulfone/Mint

1. Five compounds with very different properties
2. Two reference methods
3. Difficult Matrix
4. Each compound had to go through a separate cleanup and injected separately on the instrument.
5. Time consuming and labor intensive

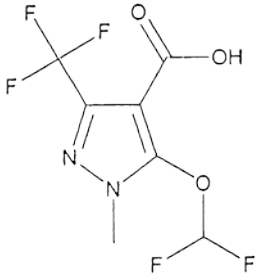
1. Five compounds with very different properties



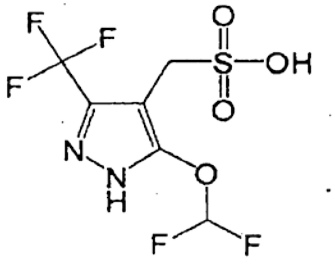
Pyroxasulfone



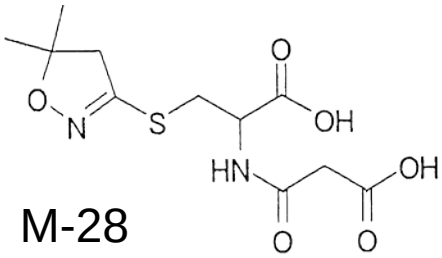
M-1



M-3



M-25



M-28

2. Two Reference Methods

"KIH-485/M-3, M-1, and M-25 Analytical Method in Cotton Processed Commodities as Described in "Magniturde of the Residue of KIH-485 85 WG herbicide in Cotton Processed Commodities," Janine E. Marin, Ph.D., PTRL West Study No. 2340W, Sponsor: Kumiai Chemical Industry Co., Ltd."

and

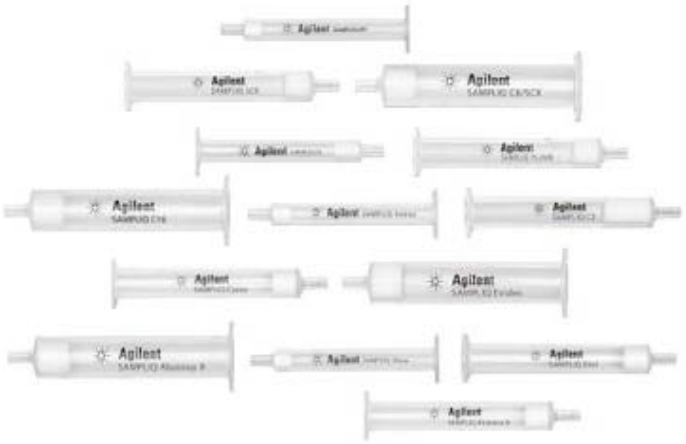
"The magnitude of residues of Pyroxasulfone metabolite M-28 in/on soybean seed and processed commodites, study conducted by PRL West, Sponsor: Kumiai Chemical Industry Co., Ltd."

Issue: Separate extraction for M-28

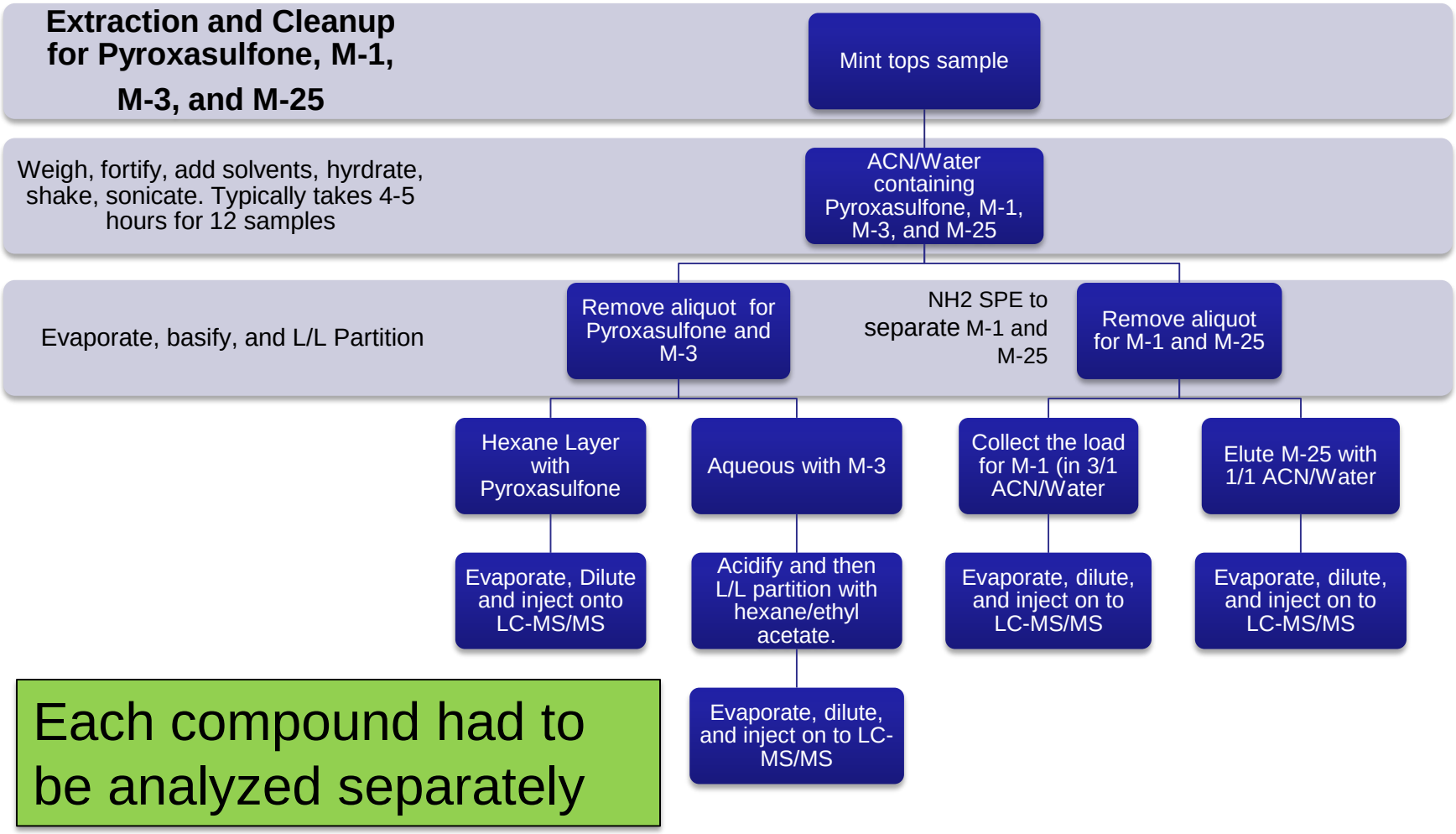
3. Difficult Matrix

- Complex matrix with hundreds of compounds
- Low Moisture
- Oily consistency

4. Separate cleanup steps for all compounds

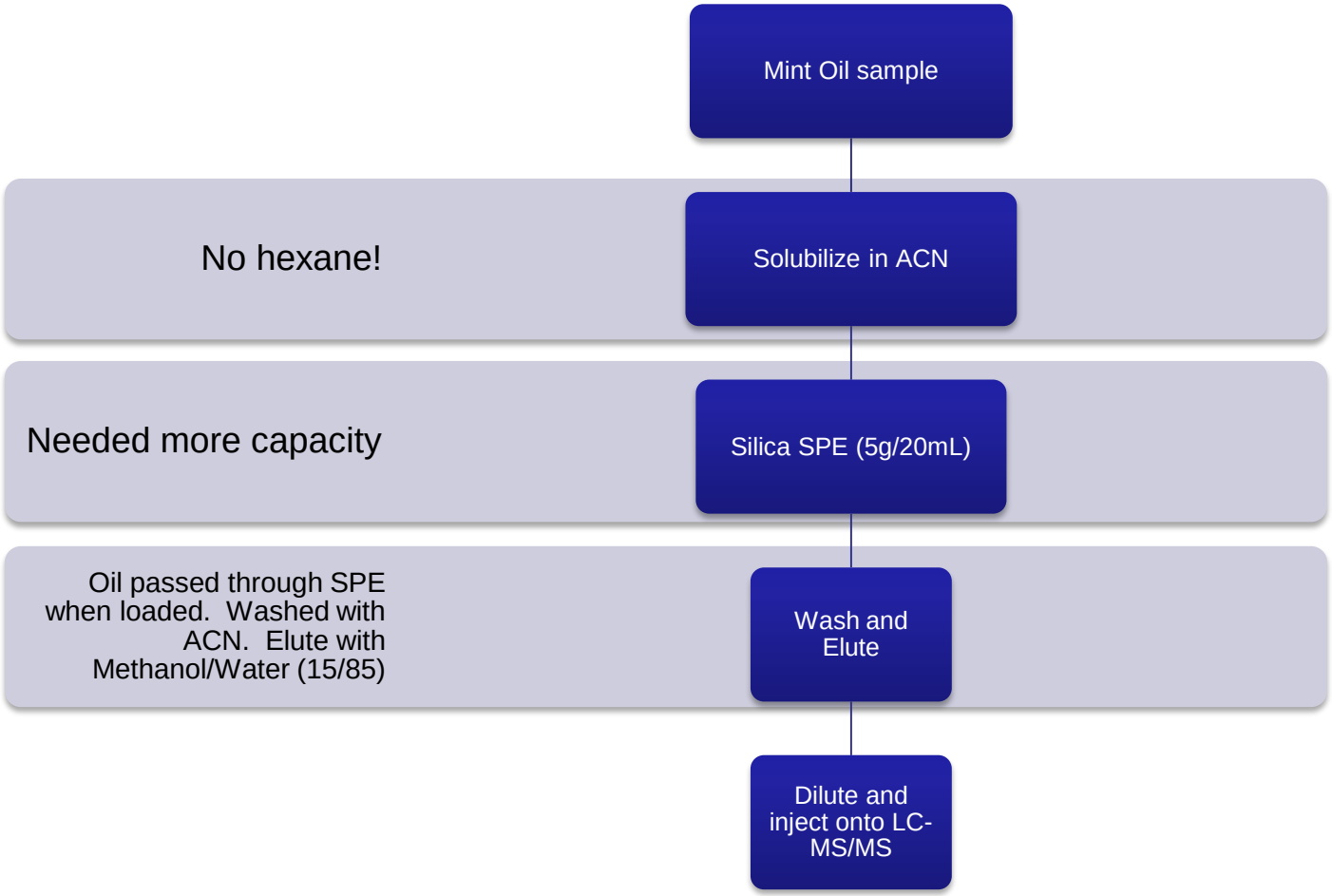


IR-4 Western Region Laboratory



Each compound had to be analyzed separately

IR-4 Western Region Laboratory



5. Time Consuming and Labor Intensive method

1. Two separate extractions.
2. Each compound had to go through a separate cleanup. Wet Chemistry took 2 days per analytical set and required a large amount of glassware.
3. Each compound was injected separately on the instrument. Analysis time was approximately 40 hours per analytical set.

To overcome the difficulties of this project, I needed something more…

5. Time Consuming and Labor Intensive method

With an extra pair of hands, we were able to maintain efficiency and run one analytical set per week with approximately 12 samples per set.

At the end of the day, after all the hard work in the lab I came home to this: