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Synthesis of selenylated derivatives of acetanilide

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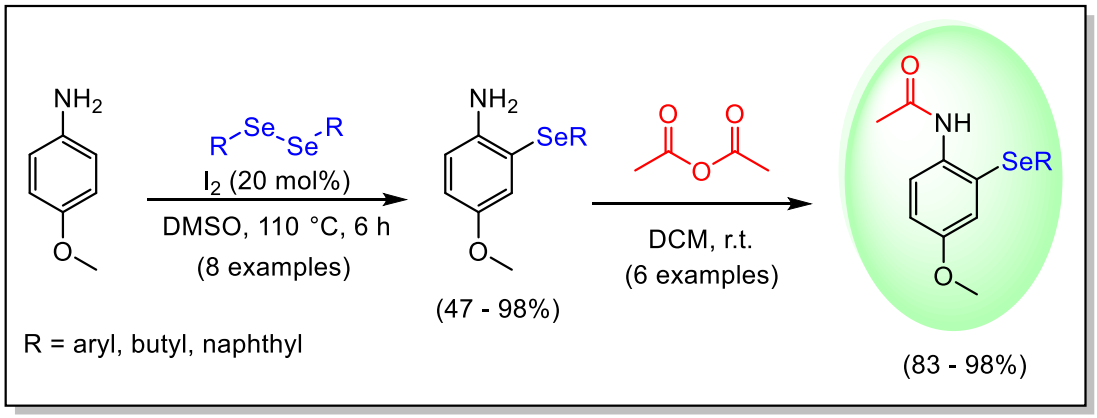
ABSTRACT

In drug development, an effective strategy is synthesizing molecules with multiple functional groups to target different biological profiles. Developing molecules containing selenium atoms is promising due to their synthesis potential[1] and pharmacological properties.[2] Aromatic amines acetylated at the nitrogen atom are commonly used as analgesics or antipyretics, such as acetanilide, phenacetin, and acetaminophen, and are available over the counter.

This work aims to synthesize acetanilide derivatives containing organic selenium groups to enhance pharmacological activities. Using a method with molecular iodine (20 mol%),[3] six compounds with aryl, butyl, and naphthyl substituents were obtained, yielding 47-98%. These compounds were then acetylated to convert the amino group to the amide group, resulting in acetanilide derivatives with yields of 83-98% (Scheme 1).



Scheme 1: Synthesis of selenylated derivatives of acetanilide

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REFERENCES

1 - Lenardão, E. J.; Santi, C.; Perin, G.; Alves, D. in *Organochalcogen compounds: Synthesis, catalysis, and new protocols with greener perspectives*, Elsevier, **2022**.
2 - Nogueira, C. W.; Rocha, J. B. T. *Organoselenium and Organotellurium Compounds: Toxicology and pharmacology, In Patai's Chemistry of Functional Groups*, Wiley, Chichester **2011**.
3 - Saba, S.; Rafique, J.; Braga, A. L. *Catal. Sci. Technol*. **2016**, *6*, 3087.