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## Synthesis and herbicidal activity of a pentafluorosulfanyl analog of trifluralin

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### Abstract:

The synthesis of 2,6-dinitro-4-pentafluorosulfanyl-*N,N*-dipropylaniline, **2**, was achieved in a straightforward manner from commercially available 1-nitro-4-pentafluorosulfanylbenzene. In post-emergence screening **2** was found to be approximately twice as potent as trifluralin with the same general spectrum of activity. In contrast, in pre-emergence tests, **2** was nearly 5 fold more potent against quackgrass and crabgrass. Given the existing structure–activity–relationship for adverse properties of the dinitroaniline herbicides, **2** is proposed to have properties quite comparable to the commercial agent trifluralin.

### Keywords:

trifluralin, dinitroaniline, post-emergence, pre-emergence, trifluoromethyl, pentafluorosulfanyl



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