有机化学 2007 27 (03): 385-390 ISSN: 0567-7351 CN: 31-1320/06

研究论文

新型3-羟亚甲基吡咯烷-2,4-二酮衍生物的合成与除草活性研究

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收稿日期 2006-6-28 修回日期 2006-8-3 网络版发布日期 2007-2-13 接受日期 2006-9-3

摘要 为了进一步研究3-羟亚甲基吡咯烷-2,4-二酮类化合物构效关系, 以期发现高活性化合物, 利用19种酮酸酯与氨基酸酯合成了19个未见文献报道的新型3-羟亚甲基吡咯烷-2,4-二酮衍生物, 其结构均经过^{1}H NMR, IR和元素分析确证. 初步生物活性测试结果表明, 其生长抑制活性高于对照药HPPD抑制剂磺草酮. 与已报道的高活性化合物相比, 对油菜的抑制率明显得到提高, 但对稗草的生长抑制没有明显的改善.

关键词 除草剂 对羟基苯基丙酮酸双氧化酶 吡咯烷

分类号

Synthesis and Herbicidal Evaluation of Novel 3-(Hydroxymethylene)pyrrolidine-2,4-dione

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Abstract In order to further study the structure-activity relationships (SAR) of the title compounds and find new kinds of herbicides, nineteen new compounds were prepared by reaction of nineteen ketoacid esters with amio-acid esters. All of them have been confirmed by ^{1}H NMR and elemental analysis. The preliminary bioassay results indicated that their inhibiting rates were higher than sulcotrione. In comparison with the re-ported compounds with excellent herbicidal activity, their inhibiting rates against *B. campestrisroot* were elevated significantely while their inhibiting rates against *E. crus-galli* were not improved.

Key words herbicide *p*-hydroxyphenypyruvate dioxydenase pyrrolidine

DOI:

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