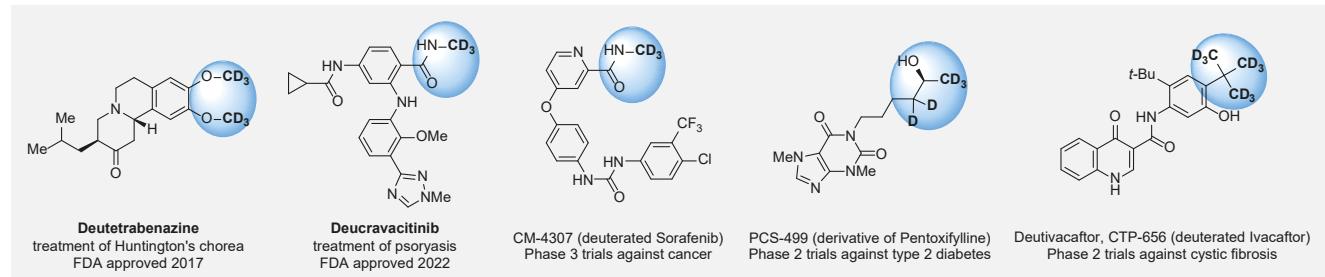


# Deuterium-containing Building Blocks

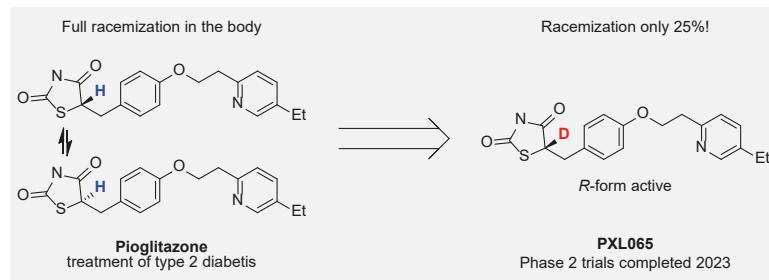
## Introduction

In 2022, the FDA approved the second deuterium-containing drug. Deuterium exchange has proven effects on drug pharmacokinetics, inhibiting demethylation, reducing oxidation, and slowing racemization. This leads to prolonged drug exposure, lower doses, and fewer side effects. Deuterium has improved many existing drugs, making it important to consider deuterated variants when filing patents for new pharmaceuticals.<sup>1-3</sup>

Enamine is the recognized leader in the synthesis of advanced building blocks for discovery chemistry. Our chemists have synthesized a sizable collection of deuterium-containing building blocks to design new therapeutics.



## Case study



Pioglitazone has been in medical use against type 2 diabetes since 1999. The substance was administered as racemate, as it undergoes full racemization in the patient's body. However, the incorporation of deuterium to the molecule significantly decreased racemization, resulting in a ratio ~4:1. Deuterium allowed to administer the substance in the *R*-chiral form, leading to a notable reduction in side effects.<sup>4</sup>

**We offer:** over 50 deuterium-containing building blocks on a gram scale.

EN300-7566741	EN300-27777279	EN300-7566965	EN300-7433810	EN300-7570567	EN300-45476432	EN300-7474149	EN300-7572628
EN300-7571664	EN300-26980508	EN300-7570192	EN300-27746489	EN300-1720512	EN300-19062808	EN300-27719067	EN300-1590353
EN300-43356093	EN300-44829566	EN300-43354252	EN300-43354362	EN300-44822715	EN300-7472023	EN300-44822445	EN300-27692171
EN300-7418822	EN300-7623936	EN300-39926531	EN300-44826088	EN300-7699962	EN300-39868391	EN300-39868163	EN300-39868395
EN300-735829	EN300-7577356	EN300-45214121	EN300-45214117	EN300-43378363	EN300-43378358	EN300-27149338	EN300-28250616

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