Alfa Aesar

Thiophenes

Thiophenes are an important class of heterocycles and have found great interest in a variety of fields from medicinal chemistry to material science. They are frequently found in various pharmaceuticals and drug candidates,[1] semiconductors,[2] liquid crystals[3] and other molecular functional materials.[4] Owing to their wide application in academia and industry, new methods and strategies for the generation of functionalized thiophenes derivatives are in demand. A number of new thiophene derivatives are now available through Alfa Aesar, now part of Thermo Fisher Scientific. Many have already been extensively cited in the scientific literature; here are just a few examples of their use.

Researchers at the Université Claude Bernard, Lyon France, have reported the synthesis of several thiophene inhibitors of alkaline phosphatase using H51060 as the starting material.[5] Furthermore, workers in China have also used H51060 and developed an efficient synthesis of β-diketones from aromatic α-bromo ketones in the presence of Furukawa reagent under mild conditions.[6]

The Suzuki cross-coupling reactions of boronic acids have been extensively reported,[7] and under such conditions, H32543 was used to yield a versatile diarylethene containing a 1,10-phenanthroline ligand, which exhibits photochromic and luminescence switching properties.[8] Similarly, the thiophene moieties H53201 and B23637 were used to synthesize a series of 5-substituted, 6-substituted pyridine analogues of nicotine, as selective inhibitors of cytochrome P-450 2A6.[9]

The thiophene H31867 was employed as in a convenient starting point for the synthesis of 2,3-diaminothieno[2,3-d] pyrimidin-4(3H)-one derivatives from substituted alkyl 2-(1H-tetrazol-1-yl)thiophene-3-carboxylates.[10] The use of H30384 has been described in many papers and patents as starting material for more complex materials such as herbicides,[11] inhibitors of protein kinase B activity,[12] or in the treatment of cancer and arthritis.[13]

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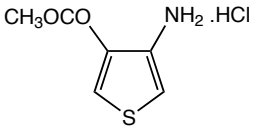
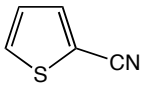
PF_Thiophenes_2016_V1

Thiophenes

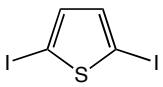
A13941
Thiophene, 99%
[110-02-1]



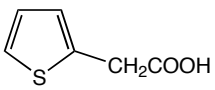
043384
Methyl 3-aminothiophene-4-carboxylate hydrochloride, 97+%
[39978-14-8]



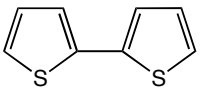
A11930
Thiophene-2-carbonitrile, 98%
[1003-31-2]



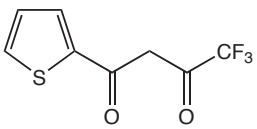
A12443
2,5-Diiodothiophene, 99%
[625-88-7]



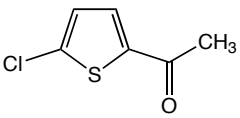
A10394
2-Thiopheneacetic acid, 98%
[1918-77-0]



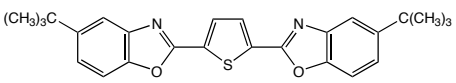
A12335
2,2'-Bithiophene, 98%
[492-97-7]



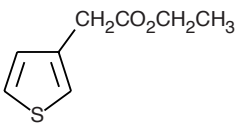
A10808
1-(2-Thenoyl)-3,3,3-trifluoro-acetone, 99%
[326-91-0]



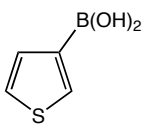
A11850
2-Acetyl-5-chlorothiophene, 99%
[6310-09-4]



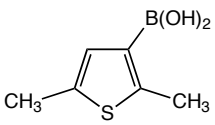
A14928
2,5-Bis(5-tert-butyl-2-benzoxazolyl) thiophene, 99%
[7128-64-5]



A19694
Ethyl thiophene-3-acetate, 98%
[37784-63-7]



B23637
Thiophene-3-boronic acid, 98%
[6165-69-1]



H32543
2,5-Dimethylthiophene-3-boronic acid, 95%
[162607-23-0]

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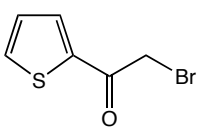
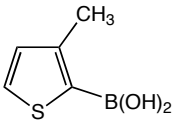
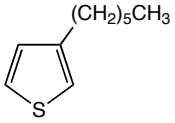


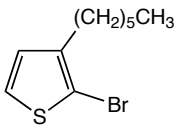
H51060
2-(Bromoacetyl)thiophene, 97%
[10531-41-6]



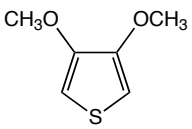
H53201
3-Methylthiophene-2-boronic acid, 98%
[177735-09-0]



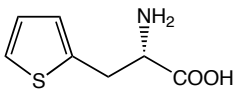
H55891
3-n-Hexylthiophene, 99+%
[1693-86-3]



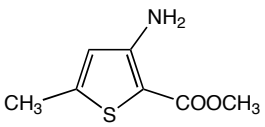
H56243
2-Bromo-3-hexylthiophene, 98%
[69249-61-2]



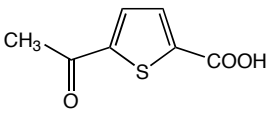
H56674
3,4-Dimethoxythiophene, 98%
[51792-34-8]



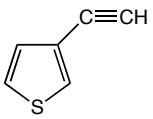
H63316
3-(2-Thienyl)-L-alanine, 95%
[22951-96-8]



H63719
Methyl 3-amino-5-methylthio-
phene-2-carboxylate, 97%
[76575-71-8]



L13588
5-Acetylthiophene-2-carboxylic acid, 98+%
[4066-41-5]



H55898
3-Ethynylthiophene, 96%
[67237-53-0]

Thiophenes

References

1. Athri, P.; Wenzler, T.; Ruiz, P.; Brun, R.; Boykin, D. W.; Tidwell, R. & Wilson, W. D. *Bioorg. Med. Chem.* **2006**, *14*, 3144.
   Brendle, J. J.; Outlaw, A.; Kumar, A.; Boykin, D. W.; Patrick, D. A.; Tidwell, R. R. & Werbovetz, K. A. *Antimicrob. Agents Chemother.* **2002**, *46*, 797.
2. Facchetti, A.; Yoon, M.-H.; Stern, C. L.; Katz, H. E. & Marks,T. J. *Angew. Chem., Int. Ed.* **2003**, *42*, 3900.
3. Kobayashi, K.; AhmedM. S. M. & Mori A. *Tetrahedron*. **2006**, *62*, 9548.
4. Kojima, T.; Nishida, J.; Tokito, S.; Tada, H. & Yamashita, Y. *Chem. Commun.* **2007**, 1430.
5. Chang, L.; Popowycz, F.; Pellet-Rostaing, S.; Lemaire, M.; Duy, D. L.; Mebarek, S. & Buchet, R. *Bioorganic & Med. Chem. Lett.* **2011**, *21*, 2297.
6 Li, L.; Cai, P.; Xu, D.; Guo, Q. & Xue, S. *J. Org Chem.* **2007**, *72*, 8131.
7. Miyaura, N. & Suzuki, A. *Chem Rev.* **1995,** *95*, 2457.
8. Wing-Wah Yam, V.; Ko, C.-C. & Zhu, N. *J. Am. Chem. Soc.* **2004**, *126*,12734.
9. Denton, T. T.; Zhang, X. & Cashman, J. R. *J. Med. Chem.* **2005**, *48*, 224.
10. Pokhodylo, N. T.; Matiychuk, V. S. & Obushak, M. D. *Tetrahedron*. **2008**, *64*, 1430.
11. Beydoun, K. & Doucet, H. *J. Organomet. Chem.* **2011**, *696*, 1749.
12. Stanetty, P.; Puschautz, E. & Friedbacher, G. *Monatshefte fuer Chemie*. **1989**, *120*, 53.
13. SmithKline Beecham Corporation, Patent: WO2007/76423 A2, **2007**.