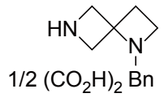
J&K Scientific

Spirocyclic Compounds

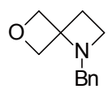
Spirocyclic Compounds

1351261



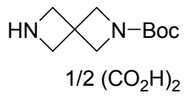
1223573-42-9
1-Benzyl-1,6-diazaspiro[3.3]heptane hemioxlate, 95%

1556975



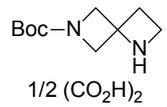
1223573-38-3
1-Benzyl-6-oxa-1-azaspiro [3.3]heptane, 95%

1238563



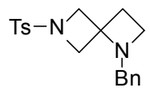
1041026-70-3
2-Boc-2,6-diazaspiro[3.3]heptane hemioxalate, 95%

1351260



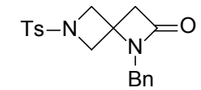
1431868-60-8
6-Boc-1,6-diazaspiro[3.3]heptane hemioxylate，95%

1565863



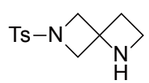
1223573-36-1
6-[(4-Methylphenyl)sulfonyl]-1-benzyl-1,6-diazaspiro[3.3]heptane, 95%

1565862



1263296-91-8
6-[(4-Methylphenyl)sulfonyl]-1-benzyl-1,6-diazaspiro[3.3]heptan-2-one, 95%

1590282



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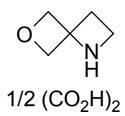
6-[(4-Methylphenyl)sulfonyl]-1,6-diazaspiro[3.3]heptane, 95%

1238560



1046153-00-7
6-Oxa-1-azaspiro[3.3]heptane hemioxalate, 95%

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Spirocyclic Compounds

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Spirocyclic Compounds

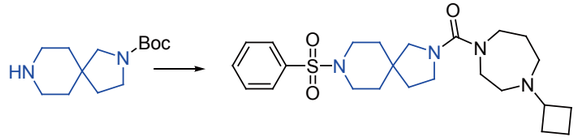
A spiro compound is a bicyclic organic compound with rings connected through just one atom. The rings can be different in nature or identical. The connecting atom, called the spiroatom, is most often a quaternary carbon ("spiro carbon").

The structural rigidity and feasibility for further structural elaboration through three-dimensional drug space have allowed spiro-bicyclic compounds to be applied in many bioactive molecules; this is one of the key strategies in modern medicinal chemistry.

J&K Scientific categorizes these novel spiro compounds based simply on their ring systems. For instance, 2-Oxa-6-azaspiro [3.4]octane ()is one of the chemicals of the 5+4 system. We can provide all of the common kinds of spiro compound systems as outlined below:

■ [6+5]-Spirocyclic compounds:

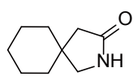
2-Boc-2,8-Diaza-spiro[4.5]decane has been used as the key intermediate in the synthesis of spirofused piperazine and diazepane amides. These compounds should provide useful starting points and tools to investigate further the importance of selective H_3 antagonists for drug therapy in a variety of potential disease states.



References

Brown, D. G.; Bernstein, P. R.; et al. J. Med. Chem., **2014**, 57, 733−758

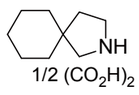
511395



64744-50-9

3-Azaspiro[4.5]decan-2-one, 98%

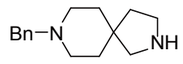
1175510



176-66-9

2-Azaspiro[4.5]decane hemioxalate, 95%

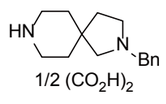
912509



336191-15-2

8-Benzyl-2,8-diazaspiro[4.5]decane, 95%

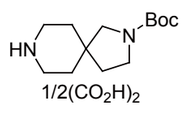
1549294



867009-61-8

2-Benzyl-2,8-diazaspiro[4.5]decane hemioxalate, 95%

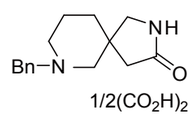
1711618



1086395-18-7

7-Benzyl-2,7-diazaspiro[4,5]decane hemioxalate, 95%

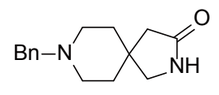
1711617



1312760-55-6

7-Benzyl-2,7-diazaspiro[4,5]decan-3-one hemioxalate, 95%

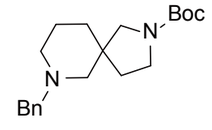
1558751



154495-69-9

8-Benzyl-2,8-diazaspiro[4.5]decan-3-one, 95%

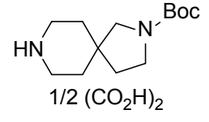
1549291



1245649-93-7

2-Boc-7-benzyl-2,7-diazaspiro[4.5] decane, 95%

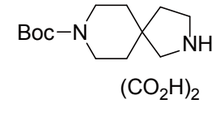
328108



336191-17-4

2-Boc-2,8-diaza-spiro[4.5]decane hemioxalate, 95%

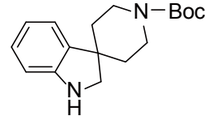
1139418



236406-39-6

8-Boc-2,8-diazaspiro[4.5]decane oxalate, 95%

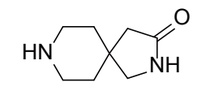
1019223



180465-84-3

1'-Boc-spiro[indoline-3,4'-piperidine] , 95%

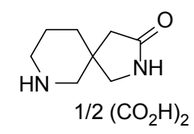
1117933



561314-57-6

2,8-Diazaspiro[4.5]decan-3-one, 95%

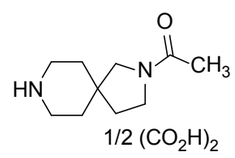
1553395



1158750-89-0

2,7-Diazaspiro[4,5]decan-3-one hemioxalate, 95%

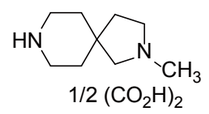
1586814



870082-43-2

1-(2,8-Diazaspiro[4.5]decan-2-yl)ethanone hemioxalate, 95%

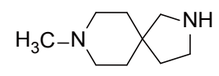
1139419



1061873-16-2

2-Methyl-2,8-diazaspiro[4.5]decane hemioxalate, 95%

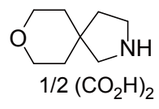
1117680



1158750-98-1

8-Methyl-2,8-diazaspiro[4.5]decane, 95%

908679



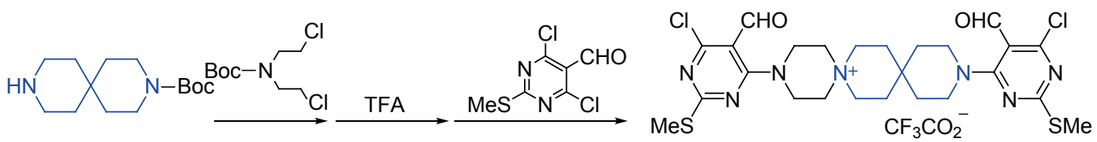
310-93-0

8-Oxa-2-azaspiro[4.5]decane hemioxalate, 95%

Spirocyclic Compounds

■ [6+6]-Spirocyclic compounds:

3,9-Diazaspiro[5.5]undecane has been used in the synthesis of the analogues of adhesamine. A study combined chemical, physicochemical, and cell biological experiments, using adhesamine and its analogues, to examine the mechanism by which this dumbbell-shaped, nonpeptidic molecule induces physiologically relevant cell adhesion. The results suggest that multiple adhesamine molecules cooperatively bind to heparan sulfate and induce its assembly, promoting clustering of heparan sulfate-bound syndecan-4 on the cell surface.



References

Takemoto, N.; Suehara, T.; et al. J. Am. Chem. Soc., **2013**, 135, 11032−11039.

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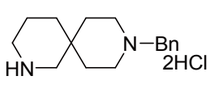
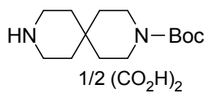


1198286-24-6

9-Benzyl-2,9-diazaspiro[5.5]undecane dihydrochloride, 95%

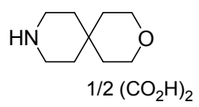
536697



173405-78-2

3-Boc-3,9-diazaspiro[5.5]undecane hemioxalate, 95%

1139449

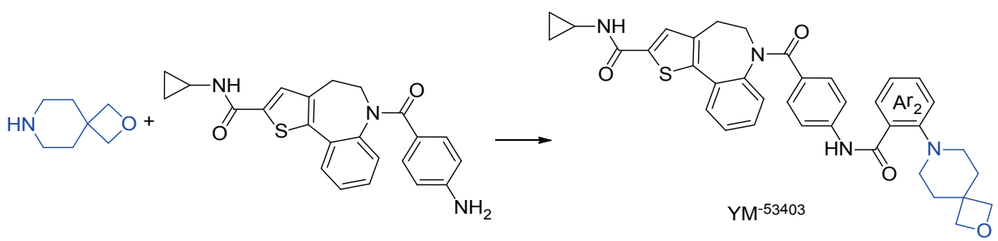


311-21-7

3-Oxa-9-azaspiro[5.5]undecane hemioxalate, 95%

■ [6+4]-Spirocyclic compounds:

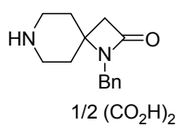
Modified by an oxetane spiro-fused piperidine, the derivatives of YM-53403 have been found to give significantly improved antiviral activity against RSV A2 and RSV B-WST; this discovery provides new knowledge that may pave the way towards effective RSV therapeutics and new tool compounds to interrogate RSV L protein function.



References

Xiong, H.; Foulk, M.; et al. Bioorg. Med. Chem. Lett., **2013**, 23, 6789 – 6793.

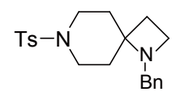
1711613



1415396-42-7

1-Benzyl-1,7-diazaspiro[3,5]nonan-2-one hemioxalate, 95%

1711615



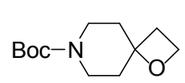
1-Benzyl-7-tosyl-1,7-diazaspiro[3,5]nonane, 95%

1351181

203662-66-2

7-Boc-2-cyano-7-azaspiro[3.5]nonane, 95%

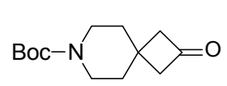
1494423



864684-96-8

7-Boc-1-oxa-7-azaspiro[3.5]nonane, 96%

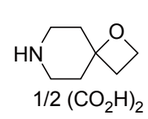
1350800



203661-69-2

7-Boc-2-oxo-7-azaspiro[3.5]nonane, 95%

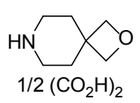
1581756



1408076-14-1

1-Oxa-7-azaspiro[3.5]nonane hemioxalate, 97%

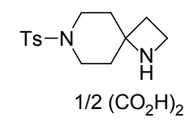
1548995



1379811-94-5

2-Oxa-7-azaspiro[3.5]nonane hemioxalate, 95%

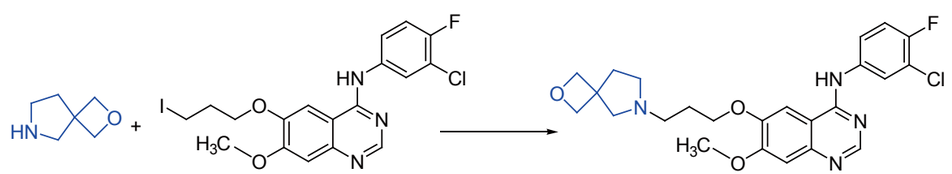
1711616



7-Tosyl-1,7-diazaspiro[3,5]nonane hemioxalate, 95%

■ [5+4]-Spirocyclic compounds:

When 2-oxa-6-azaspiro[3.4]octane was substituted in 4-anilinoquinazoline derivative, higher EGFR inhibitory activities against two lung cancer cell lines (HCC827 and A549) were evaluated.

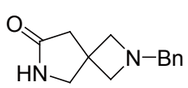


Spirocyclic Compounds

References

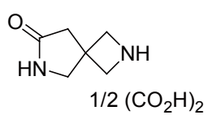
Zhao, F.; Lin, Z. H.; Wang, F.; et al. Bioorg. Med. Chem. Lett., **2013**, 23, 5385-5388

1581815



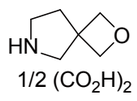
1392211-22-1
2-Benzyl-2,6-diazaspiro
[3.4]octan-7-one, 95%

1742938



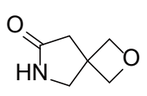
1211515-65-9
2,6-Diazaspiro[3,4]octan-7-one
hemioxlate, 95%

1581759



1408075-00-2
2-Oxa-6-azaspiro[3.4]octane
hemioxalate, 97%

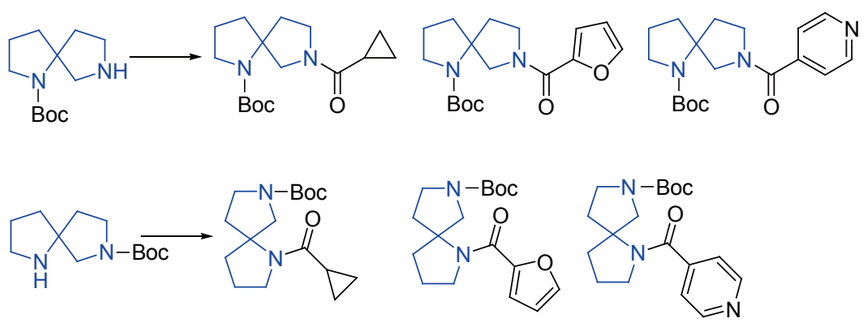
1238567



1207174-87-5
2-Oxa-6-azaspiro[3.4]octan-7-one,
95%

■ [5+5]-Spirocyclic compounds

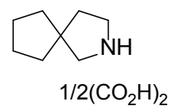
These spiro-bicyclic compounds have been used in the synthesis of the analogues of α4β2 nicotinic acetylcholine receptor agonist; They have been applied in the study of a potential treatment for cognitive deficits associated with psychiatric or neurological conditions.



References

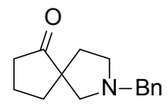
Mazurov, A. A.; Miao, L.; Bhatti, B. S.; et al. J. Med. Chem., **2012**, 55, 9181− 9194

434240



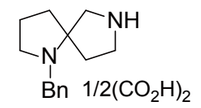
1523617-88-0
2-Azaspiro[4.4]nonane hemioxalate,
95%

1742307



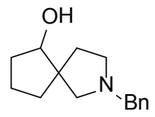
160746-93-0
2-Benzyl-2-azaspiro[4.4]nonan-9-one,
95%

1586812



128244-01-9
1-Benzyl-1,7-diazaspiro[4.4]nonane
hemioxalate, 95%

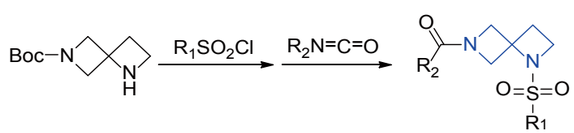
1762766



186202-97-1
6-Hydroxy-2-benzyl-2-azaspiro
[4.4]nonane, 95%

■ [4+4]-Spirocyclic compounds:

Some azetidine derivatives have been synthesized and used in therapy and/or prophylaxis, in particular to inhibitors of soluble epoxide hydrolase (sEH). The compounds are useful for treating disease states mediated by sEH, including genitourinary disease states, pain disease states, respiratory disease states, neurological disease states, immunological disease states, inflammatory disease states, cancer, nephropathy, stroke, endothelial dysfunction, prevention of ischemic events and end organ protection.



References

Ceccarelli, S. M.; Guerot, c.; Knust, H. US 20130109668.