1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{10}\text{H}_{12}\text{N}_{2}\text{O}_{2}\text{S} \)
Batch Molecular Weight: 224.28
Physical Appearance: Off-white solid
Solubility: DMSO to 50 mM
Storage: Store at -20°C

2. ANALYTICAL DATA

TLC: \( R_f = 0.7 \) (Dichloromethane:Ethyl acetate [1:1])
HPLC: Shows 99.2% purity
Chiral HPLC: Shows >99.4% purity
\(^1\text{H} \text{NMR:}\) Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

<table>
<thead>
<tr>
<th></th>
<th>Carbon</th>
<th>Hydrogen</th>
<th>Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>53.55</td>
<td>5.39</td>
<td>12.49</td>
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<tr>
<td>Found</td>
<td>53.84</td>
<td>5.27</td>
<td>12.38</td>
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</table>
**Product Name:** S 18986

**CAS Number:** 175340-20-2

**IUPAC Name:** 2,3,3a,4-Tetrahydro-1H-pyrrolo[2,1-c][1,2,4]benzothiadiazine-5,5-dioxide

**Description:**
Positive allosteric modulator of AMPA receptors. Exhibits cognitive enhancing properties in rodent behavioral models. Brain penetrant.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C_{10}H_{12}N_{2}O_{2}S
- **Batch Molecular Weight:** 224.28
- **Physical Appearance:** Off-white solid
- **Minimum Purity:** >98%

**Batch Molecular Structure:**
![Molecular Structure]

**Storage:** Store at -20°C

**Solubility & Usage Info:**
DMSO to 50 mM

**Stability and Solubility Advice:**
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- **SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- **SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**
- **Bourasset et al (2005)** Neuropharmacokinetics of a new α-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid (AMPA) modulator, S18986 [(S)-2,3-dihydro-[3,4]cyclopentano-1,2,4-benzothiadiazine-1,1-dioxide], in the rat. Drug Metab. Dispos. **33** 1137. PMID: 15860654.