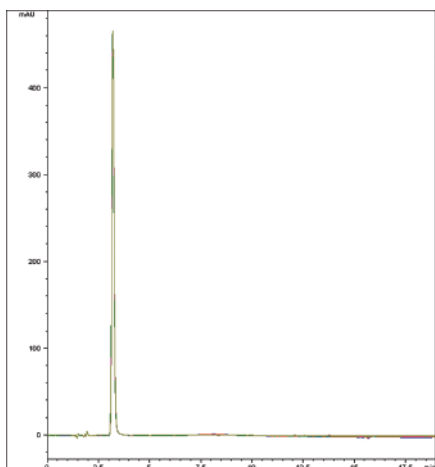
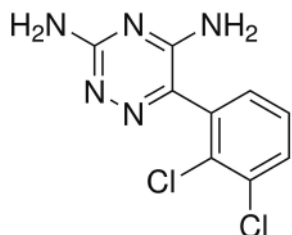


### Lamotrigine, A Very Polar Compound

#### USP Assay Method



Overlay of five runs

**Note:** Lamotrigine is a phenyltriazine anticonvulsant used to treat epilepsy and type I bipolar disorder. It is believed to act as a sodium channel blocker.

#### Method Conditions

<b>Column:</b>	Cogent Bidentate C18™, 4µm, 100Å												
<b>Catalog No.:</b>	40018-15P												
<b>Dimensions:</b>	4.6 x 150 mm												
<b>Solvents:</b>	A: 2.7 g/L KH <sub>2</sub> PO <sub>4</sub> : triethylamine 150:1, adjusted to pH 2.0 with H <sub>3</sub> PO <sub>4</sub> B: acetonitrile												
<b>Gradient:</b>	<table border="1"> <thead> <tr> <th>time (min.)</th> <th>%B</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>23.5</td> </tr> <tr> <td>4</td> <td>23.5</td> </tr> <tr> <td>14</td> <td>80</td> </tr> <tr> <td>15</td> <td>23.5</td> </tr> <tr> <td>19</td> <td>23.5</td> </tr> </tbody> </table>	time (min.)	%B	0	23.5	4	23.5	14	80	15	23.5	19	23.5
time (min.)	%B												
0	23.5												
4	23.5												
14	80												
15	23.5												
19	23.5												
<b>Injection Vol.:</b>	10 microL												
<b>Detection:</b>	UV 270 nm												
<b>Sample:</b>	25 mg strength tablet was ground and dissolved in 5 mL MeOH in a 100 mL volumetric flask. The flask was diluted to mark with 0.10 M HCl. It was sonicated and filtered with a 0.45 µm nylon filter (MicroSolv Tech Corp).												
<b>Peak:</b>	Lamotrigine												
<b>t<sub>0</sub>:</b>	1.9 min												

#### Discussion

The USP assay method for lamotrigine uses a relatively low pH of 2.0. These conditions may promote hydrolysis of the bonded phase in conventional L1 columns, but the unique chemistry of the Cogent Bidentate C18™ column is very rugged and shows no loss of retention for the API, as the five run overlay in the figure shows. The retention time %RSD for the five runs was 0.15%. In addition the peak shape was highly symmetrical.

For more information visit [www.MTC-USA.com](http://www.MTC-USA.com)

Cat. No.	Description
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40018-15P	Cogent Bidentate C18™ HPLC Column, 100A, 4µm, 4.6mm x 150mm
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