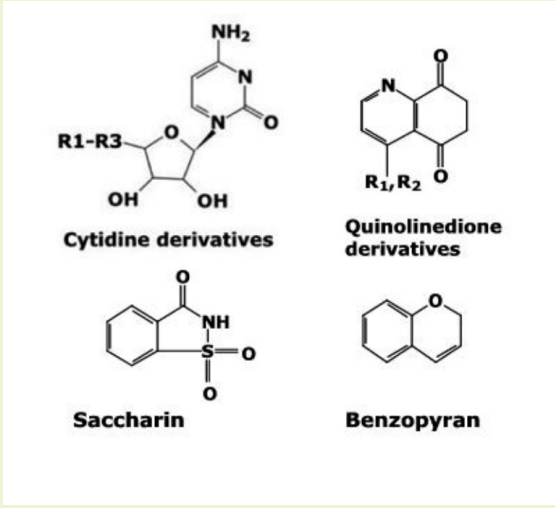
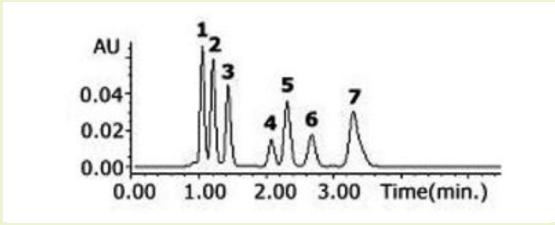
Prodrugs for the treatment of cancer

Reverse Phase Mode





Notes:

Table 1

Solute	Mol Wt.	BpKa	Log P
1. Cytidine-R1	397	3.73	1.54
2. Cytidine-R2	454	3.73	3.66
3. Cytidine-R3	425	3.73	2.66
4. Quinolinedione-R1	536	-	3.46
5. Saccharin	536	5.36	2.96
6. Quinolinedione-R2	520	-	2.74
7. Benzopyran	396	-	2.80

Method Conditions

Column: Cogent UDC Cholesterol™, 4µm, 100Å

Catalog No.: 69069-7.5P

Dimensions: 4.6 x 75 mm

Mobile phase: A: 60% Acetonitrile/ 40% DI H_2O/ 0.5% perchloric acid

Injection vol.: 5µL

Flow rate: 1 mL/min

Detection: UV 270 nm

Sample: 1 mg/mL of each in acetonitrile + DI H_2O

Peaks: 1. Cytidine-R1
2. Cytidine-R2
3. Cytidine-R3
4. Quinolinedione-R1
5. Saccharin
6. Quinolinedione-R2
7. Benzopyran

Discussion

The Cogent UDC-Cholesterol stationary phase has been shown to have reversed phase properties but its hydrophobicity is less than that of the C18 moiety on the same support. An example of a reversed phase separation in water/acetonitrile (0.5% perchloric acid) is shown for the analysis of a sample containing a number of related compounds. The properties of the solutes are listed in Table 1. When comparing the properties of Compounds 2 and 3, it is interesting to note that 2 is more hydrophobic than 3 but it's retention is shorter. The UDC-Cholesterol column has been shown to have shape selectivity which might explain why the less hydrophobic compound is retained longer. In general the more polar compounds elute earlier than the more hydrophobic species. Compound 7 has no polar functionalities at all so it is the most retained under reversed phase conditions.

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