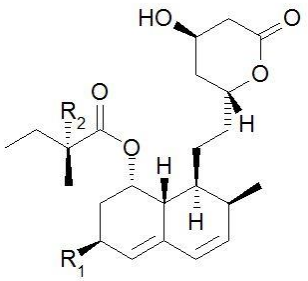
Statins in Lactone and Hydroxy Acid Forms by HPLC-UV

ACE® Ultra-inert UHPLC & HPLC Columns

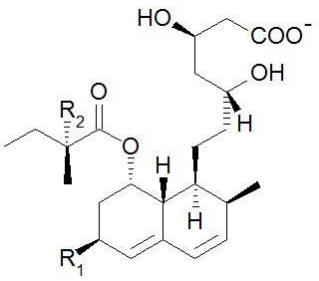
Application #AN4360

Conditions

Column:	ACE Excel 3 SuperC18
Dimensions:	100 x 3.0 mm
Part Number:	EXL-1111-1003U
Mobile Phase:	A: MeCN
	B: 5 mM ammonium acetate pH 4.5 in H_2O
	A/B (I) 73:27 v/v (II) 55:45 v/v
Flow Rate:	(I) 0.4 mL/min (II) 0.3 mL/min
Injection:	20 µL
Temperature:	40 °C
Detection:	UV, 238 nm



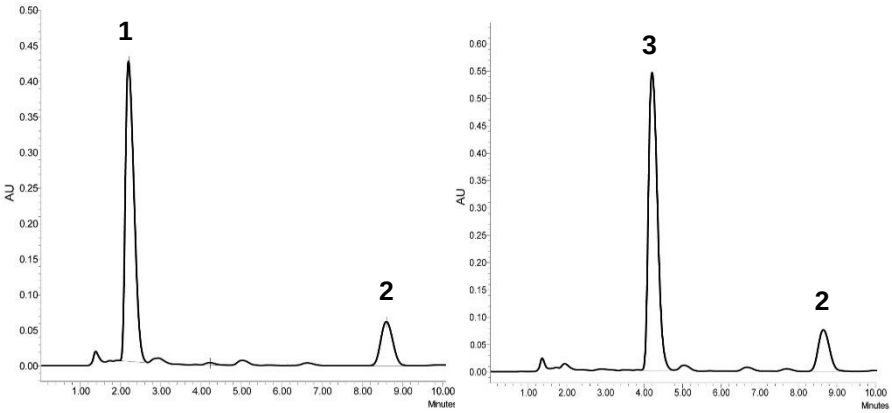
Lactone form
(pharmacologically inactive)



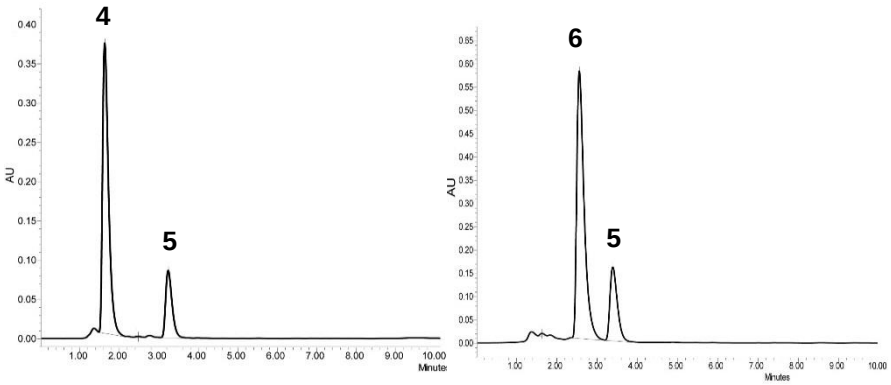
Hydroxy acid form
(pharmacologically active)

Simvastatin: R_1, $R_2 = CH_3$
Pravastatin: $R_1 = OH$, $R_2 = H$

Conditions (I)



Conditions (II)



1. Simvastatin hydroxy acid
2. 4,4-Dichlorodiphenyl trichloroethane (I.S.)
3. Simvastatin lactone
4. Pravastatin hydroxy acid
5. Griseofulvin (I.S.)
6. Pravastatin lactone

Taha DA, de Moor CH, Barrett DA, Lee JB, Gandhi RD, Hoo CW, Gershkovich P, (2016) The role of acid-base imbalance in statin-induced myotoxicity. Translational Research, The Journal of Laboratory and Clinical Medicine. http://dx.doi.org/10.1016/j.trsl.2016.03.015