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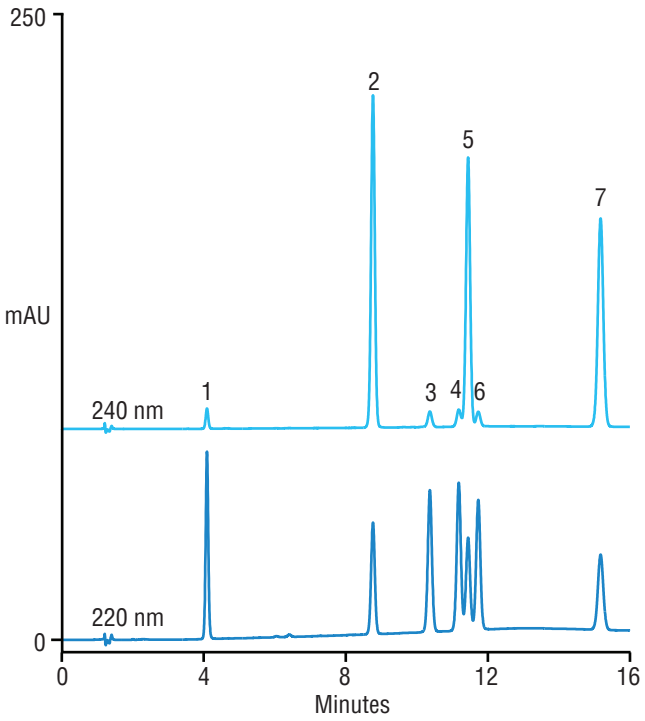
Estrogens and Progestogens Separation Using a Thermo Scientific™ Acclaim™ Phenyl-1 Column



Column:	Thermo Scientific™ Acclaim™ Phenyl-1, 3 µm				
Dimensions:	3.0 × 150 mm				
LC System:	Thermo Scientific™ Dionex™ UltiMate™ 3000 RSLC, quaternary				
Mobile Phases:	A: Acetonitrile B: Methanol C: Water				
Gradient Time (min):	–7.0	0.0	0.5	15.0	16.0
%A	20	20	20	20	20
%B	25	25	25	40	40
%C	55	55	55	40	40
Flow Rate:	0.60 mL/min				
Temperature:	35 °C				
Inj. Volume:	5 µL				
Detection:	Diode array; UV at 220, 240 nm				
Peaks:					

1. Estriol 50 µg/mL
2. Norethindrone
3. β-Estradiol
4. Estrone
5. Norgestrel
6. 17-Ethynylestradiol
7. Progesterone

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Estrogens are natural and synthetic steroid hormones with a characteristic phenolic structure with beta-estradiol as the primary member. Progestogens are natural and synthetic steroid hormones with a characteristic ketone structure with progesterone as the primary member. These hormones regulate female development, fertility, and pregnancy. Oral contraceptives are usually based on a combination of an estrogen and a progestogen. The Acclaim Phenyl-1 column is based on covalent modification of high-purity, spherical, porous silica particles, with a specially designed silane-ligand-bearing proprietary alkyl aromatic functionality. This novel column chemistry results in high aromatic selectivity, high hydrophobic retention, and unique and complementary selectivity. Here, some prominent members of estrogens and progestogens are separated using the Acclaim Phenyl-1 column.