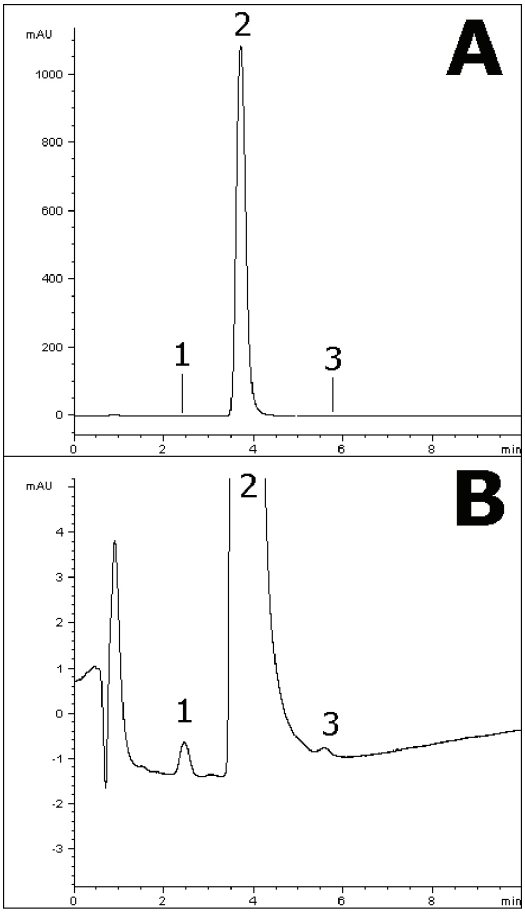
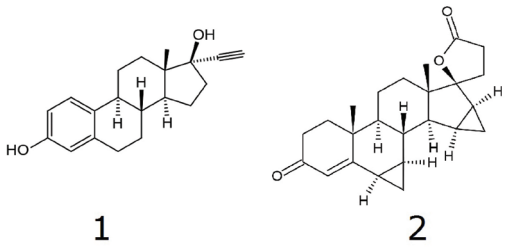
# Ocella® Tablet

## Separation of drospirenone and ethinyl estradiol




**Note:** The combination formulation of drospirenone and ethinyl estradiol is used as a contraceptive and also to alleviate symptoms of premenstrual dysphoric disorder.

## Method Conditions

**Column: Cogent Bidentate C18 2.ō™**, 2.2µm, 120Å

**Catalog No.:** 40218-05P-2

**Dimensions:** 2.1 x 50 mm

**Mobile Phase:** 50% DI water / 50% Acetonitrile (v/v)

**Injection vol.:** 4.0 microL

**Flow rate:** 0.2mL/min

**Detection:** UV 265 nm

**Peaks:** 1. Ethinyl estradiol
2. Drospirenone
3. Impurity

**Sample:** Ocella® tablet (3 mg strength drospirenone and 0.03 mg strength ethinyl estradiol) was ground and added to a 10 mL volumetric flask containing a portion of acetonitrile. It was sonicated for 10 min and diluted to mark. After mixing, a portion was filtered (0.45 µm, nylon) and used for HPLC injections.

## Discussion

Separation of two hormone analytes is achieved in this application. The Cogent Bidentate C18 2.ō column was useful in obtaining not only good chromatographic selectivity but also high-efficiency peaks. This can be helpful since ethinyl estradiol is present at a much lower concentration than drospirenone and therefore can be difficult to detect; the high efficiency can contribute to a stronger signal in detection. Furthermore, the isocratic mobile phase is very simple to prepare or even obtain premixed, allowing for streamlined routine assays of this formulation in QC laboratories.

Figure A depicts the full view of the chromatogram, with the drospirenone peak shown in its entirety. Figure B shows a zoom in view so that the tiny ethinyl estradiol peak can be seen more clearly. There is even an impurity peak observed eluting after drospirenone.



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