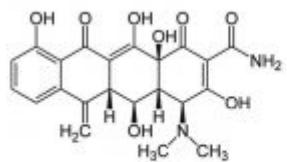
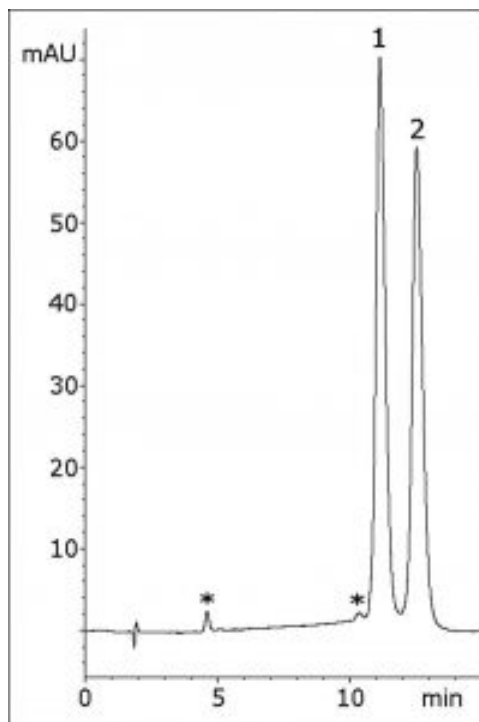


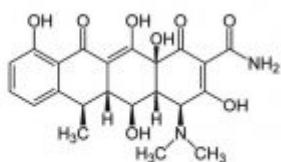
## Doxycycline and Methacycline Analyzed with HPLC - AppNote

### Simple Isocratic Method for API and Main Impurity

Formulations of Doxycycline may contain a Methacycline Impurity. As such, it is crucial for analytical methods to be able to separate these two peaks. Using this simple isocratic Method, the baseline resolution is obtained for this pair.



methacycline



doxycycline



### Peaks:

1. Methacycline
2. Doxycycline

*\* Impurities in doxycycline standard*

### Method Conditions

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

**Catalog No.:** 69069-15P

**Dimensions:** 4.6 x 150mm

**Mobile Phase:**

**A:** 73% DI Water / 0.1% TFA

**B:** 27% Acetonitrile / 0.1% TFA

**Injection vol.:** 10 μL

**Flow rate:** 1.0mL / minute

**Detection:** UV @ 350nm

**Temperature:** 25°C

**Samples:** 1.0mg / mL stock Solutions of Doxycycline HCL and Methacycline HCL reference standards were prepared in a diluent of 50/50 Solvent A / Solvent B. 100μL of each solution was transferred to a new vial and diluted with 800μL diluent. Individual standard dilutions were also prepared for peak identity confirmation.

**t<sub>0</sub>:** 1.8 minutes



**Note:** Doxycycline is an antibiotic used for treatment of various bacterial infections such as Lyme disease, Rocky Mountain Spotted Fever, and others. Methacycline is a synthetic precursor to Doxycycline and therefore is a known impurity in Doxycycline formulations.



## Attachment

**No 311 Doxycycline and Methacycline Analysis by HPLC pdf** 0.3 Mb