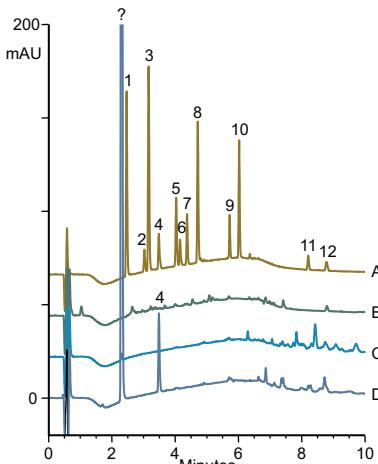


## Antioxidants in Edible Oils Using Accucore Polar Premium



Column: Thermo Scientific™ Accucore™  
Polar Premium  
Dimensions: 2.6  $\mu$ m, 3.0  $\times$  100 mm  
Mobile Phases: A: Methanol : Acetonitrile : Acetic Acid  
50:50:0.5 (v/v/v)  
B: 0.5% Acetic acid in water  
Gradient times: -4 0 5 10  
%A 25 25 100 100  
%B 75 75 0 0  
curve 5 5 4 5  
Flow: 0.80 mL/min  
Temperature: 30 °C  
Injection: 2  $\mu$ L  
Detector: Diode array spectra 250 – 400 nm,  
UV 280 nm shown  
Sample Prep: Liquid-Liquid Extraction  
(See AOAC 983.15); 5.5 g sample to  
make 10 mL of extract  
Samples:  
A. 12 antioxidants, 50 ppm each in  
acetonitrile  
B. Olive oil  
C. Butter oil  
D. Margarine, preserved with TBHQ

Peaks: 1. Propyl Gallate 7. BHA  
2. Ethoxyquin 8. Octyl Gallate  
3. THBP 9. BHT  
4. TBHQ 10. Lauryl Gallate  
5. NDGA 11. Vitamin E Acetate  
6. Ionoxy-100 12. Vitamin E

PB20875\_E 10/13S

Phenolic antioxidants are commonly used as preservatives for edible oils and fats to prevent rancidity. AOAC Method 983.15 was developed to assay levels in finished food products. This method specifies a C18 column that provides suitable selectivity in many cases, but sometimes there can be matrix interferences; for example propyl gallate coelutes with the unknown matrix peak. The Accucore Polar Premium, based on solid core technology, provides the speed, efficiency, and alternate selectivity to resolve propyl gallate from the unknown matrix peak.