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Protocol status: Working
 We use this protocol and it's working

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(-)-patchoulol GC sample preparation

Forked from [\(-\)-α-Bisabolol GC sample preparation](#)

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ABSTRACT

This is a quick guide for the preparation of (-)-patchoulol samples and external standards in dodecane for GC analysis. This protocol has been established in the Lindberg lab at Ångström laboratory (Uppsala University) for direct analysis of dodecane-based *ex-situ* extracts from cyanobacterial strains producing (-)-patchoulol. The protocol includes the preparation of stock solutions for the internal standard β-caryophyllene (BCP) and the external standard. The preparation of a fresh external standard series is suggested for each sample analysis. The calibration curve is required for quantification of (-)-patchoulol in the samples of interest.

This protocol is used in combination with the following GC protocol:

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MATERIALS

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β-Caryophyllene ≥80%, FCC, FG Sigma Aldrich Catalog #W225207

HPLC/GC Vials 1.5 mL clear glass Vwr Catalog #548-1488

Dodecane Reagent Grade ≥99% Contributed by users Catalog #D221104

Patchouli alcohol primary reference standard Sigma Aldrich Catalog #5986-55-0

Keywords: GC, patchoulol, patchouli alcohol, dodecane, sesquiterpene

Preparation of BCP (β -caryophyllene) internal standard (IS)...

1

		BCP Stand ard		
	Stock A	1: 10 Dilutio n from Origin al BCP Stock ($\Rightarrow$ 89 mg *mL ⁻¹)		
		↓		
	Stock B	281 μL St ock A + 719 μL dodec ane ($\Rightarrow$ 25 mg *mL ⁻¹)	$\Rightarrow$	1: 100 to sampl es (2 μL + 198 μL sampl e)
		↓		
	Stock C	200 μL Stock B ad 19,8 mL Dode cane ($\Rightarrow$ 250 μg * mL ⁻¹)	$\Rightarrow$	use for prepa ration of α- bisab olene extern al stand ard (ES) series

Store Stocks in the fridge at ~ 4 °C

Safety information

Dodecane is toxic! Wear protective gloves and goggles. Work under the fume hood, or use a respirator!

<https://pubchem.ncbi.nlm.nih.gov/compound/dodecane#section=Handling-and-Storage>

Preparation of (-)-patchoulol standard stocks

2

Patchoulol standard	
Resuspend 10 mg stock powder in 100 µL Dodecane	10 mg/ 100 µL = 100 µg/µL
Stock P-I 200 µL	20.57 µL Stock solution (100 µg/µL) + 179,43 µL Stock C ⇒ 10.284 µg/µL
	↓
Stock P-II 2 mL	155,6 µL Stock P-I + 1844.4 µL Stock C (⇒ 800 µg * mL ⁻¹)

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Preparation of patchoulol calibration curve

3 Example: Patchoulol external standard (ES) dilution series:

0; 25; 50; 100; 200; 400; 800 $\mu\text{g} \cdot \mu\text{L}^{-1}$

High Range Dilution Series :			
	Vol. Stock P-II	Vol. Stock C	Transfer to vial (3x)
800 $\mu\text{g} \cdot \text{mL}^{-1}$	600	0	200
400 $\mu\text{g} \cdot \text{mL}^{-1}$	325	325	200
200 $\mu\text{g} \cdot \text{mL}^{-1}$	162,5	487,5	200
100 $\mu\text{g} \cdot \text{mL}^{-1}$	81,25	568,75	200
50 $\mu\text{g} \cdot \text{mL}^{-1}$	40,625	600	200
25 $\mu\text{g} \cdot \text{mL}^{-1}$	20,3125	629,6875	200
12.5 $\mu\text{g} \cdot \text{mL}^{-1}$	10,15625	639,84375	200
0 $\mu\text{g} \cdot \text{mL}^{-1}$	0,0	600	200
Sum	1218,75	2581,2	

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Preparation of biological patchoulol samples (in dodecane)

- 4
 - pipette 198 μ L sample to GC vial
 - add each 2 μ L **Stock B**

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