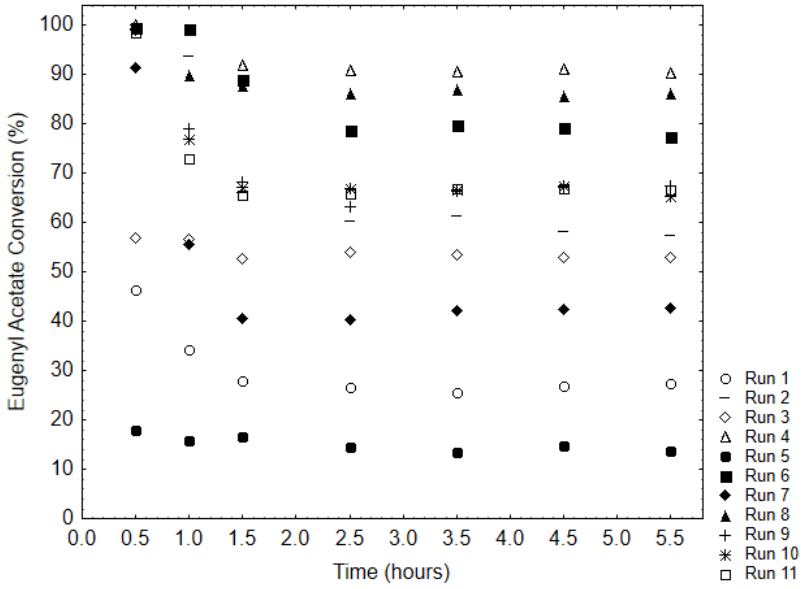
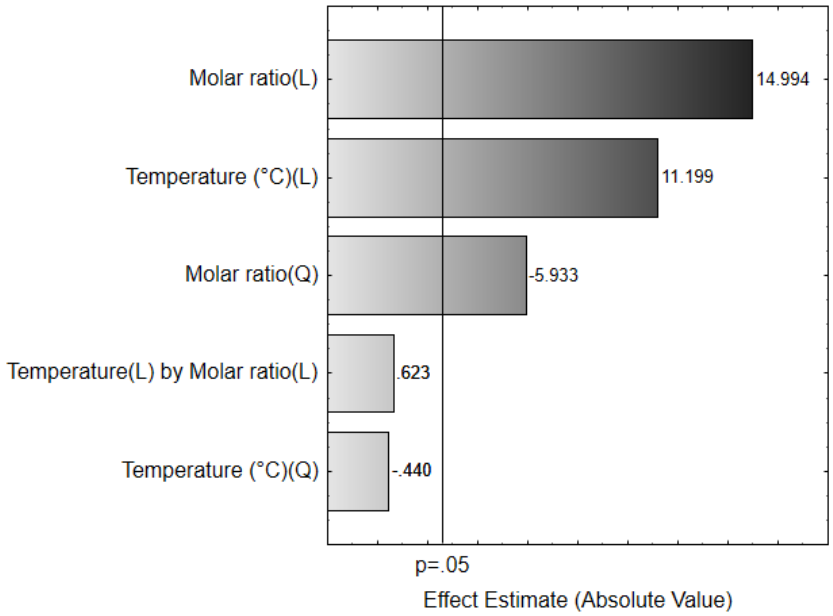
Performance evaluation of eugenyl acetate conversion in a fixed bed microreactor using the experimental conditions of Table 3.



Pareto chart of the effects of all independent studied variables on the eugenyl acetate production in a fixed bed microreactor ($p<0.05$). Experimental data and conditions shown in Table 3.

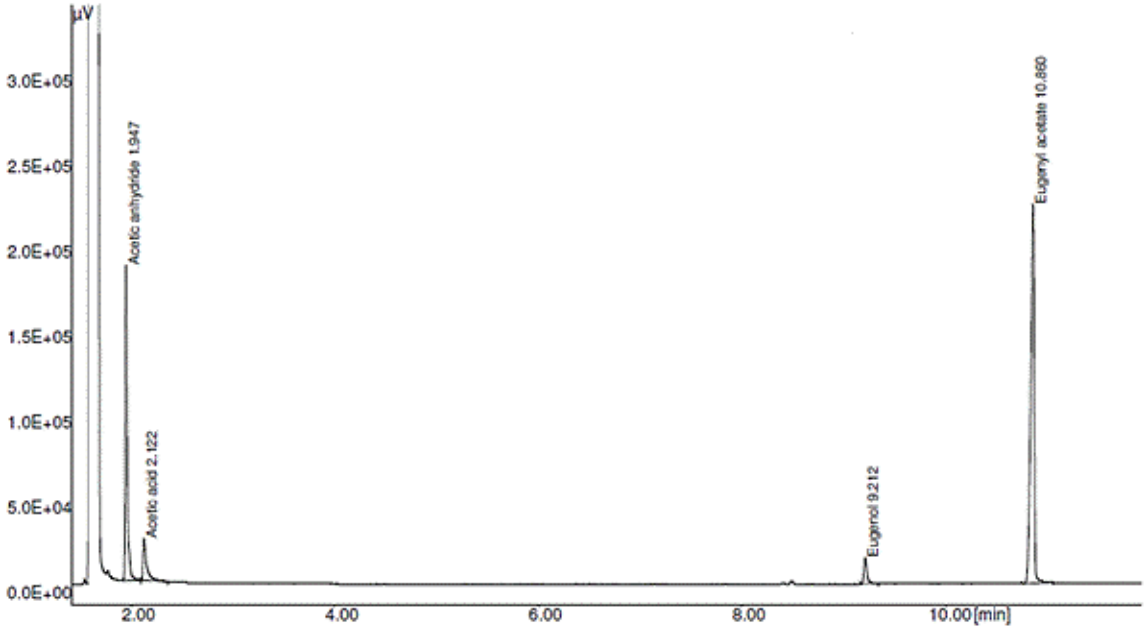


ANOVA by 2^2 CCRD for eugenyl acetate conversion in fixed bed microreactor.

Source of variation	Sum of square	Degrees of freedom	Mean square	F-$_{calculated}$	P-value
Regression	5622.323	5	1124.46	77.53	$9.8E^{-05}$
Residue	72.510	5	14.50		
Lack of fit	72.485	3	24.16		
Pure error	0.025	2	0.012		
Total	5694.83	10			

Regression coefficient: R=0.987; $F_{0.95;\,5;\,5} = 5.05$

Typical chromatogram of eugenol esterification reaction in a fixed bed microreactor, produced by gas chromatography.



Gas Chromatograph (Carlo Erba, HRGC 5160), equipped with FID, manual injector and a fused capillary column MEGA-DEX DMP-Beta (Stationary Phase: Dimethyl pentyl-β-Cyclodextrin, 0.25 mm i.d. x 0.15 µm thickness x 25 m length, obtained from Mega s.n.c.). With the following temperature program: 100 - 200 °C at 10 °C/min, 200 °C for 3 min. Injection and detector temperatures were 200 and 250 °C, respectively. Helium was used as carrier gas (90 KPa).