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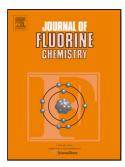
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## ACCEPTED MANUSCRIPT

# Synthesis of hydrofluorocyclopentanes by vapor-phase catalytic hydrodehalogenation

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#### Graphical Abstract - Synopsis

Hydrofluorocyclopentanes (c5-HFCs) were prepared by gas-phase hydrodehalogenation of chlorofluorocyclopentenes (c5-CFOs) over various noble metals catalysts. The activity of the catalysts followed the order Pd > Pt > Rh > Ru, and the halogen atom on the  $C(sp^2)$  atom exhibited stronger reactivity than the halogen on the  $C(sp^3)$  atom.

#### Graphical Abstract - Pictogram

Cl<sub>x</sub>F<sub>8-x</sub>

H<sub>2</sub>/Catalyst

$$R_1$$
 $R_2$ 
 $R_3$ 
 $R_4$ 
 $R_5$ 
 $R_7$ 
 $R_7$ 
 $R_8$ 
 $R_8$ 
 $R_8$ 
 $R_9$ 
 $R_9$ 

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