

Supporting information

Nb₂O₅@NiFe-MMO rod array used as structured photocatalyst with selective aerobic oxidation of benzylamine to imine

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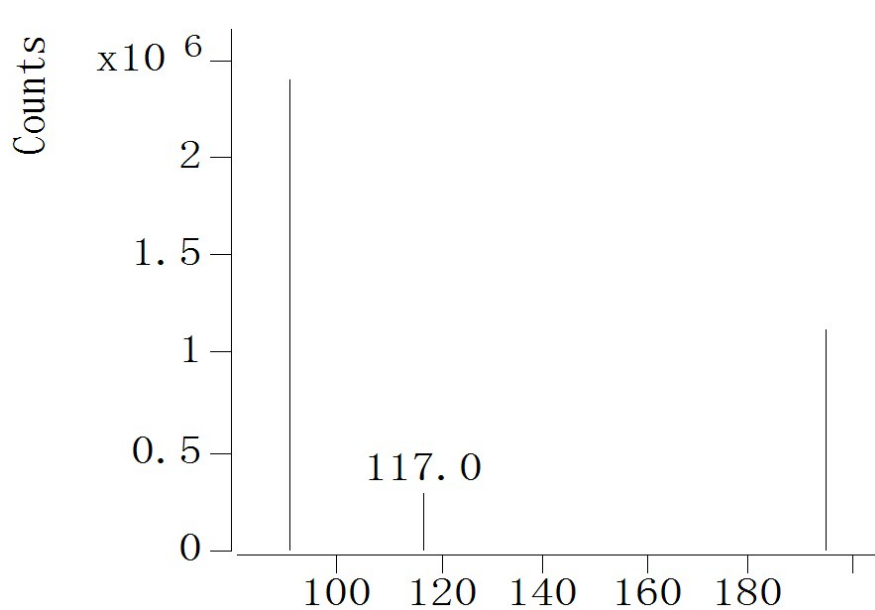


Figure S1 MS spectrum of self-coupling of benzylamines. Reaction conditions: amine (0.35 mmol), catalyst (1*3cm), O₂ balloon, room temperature.5 h.

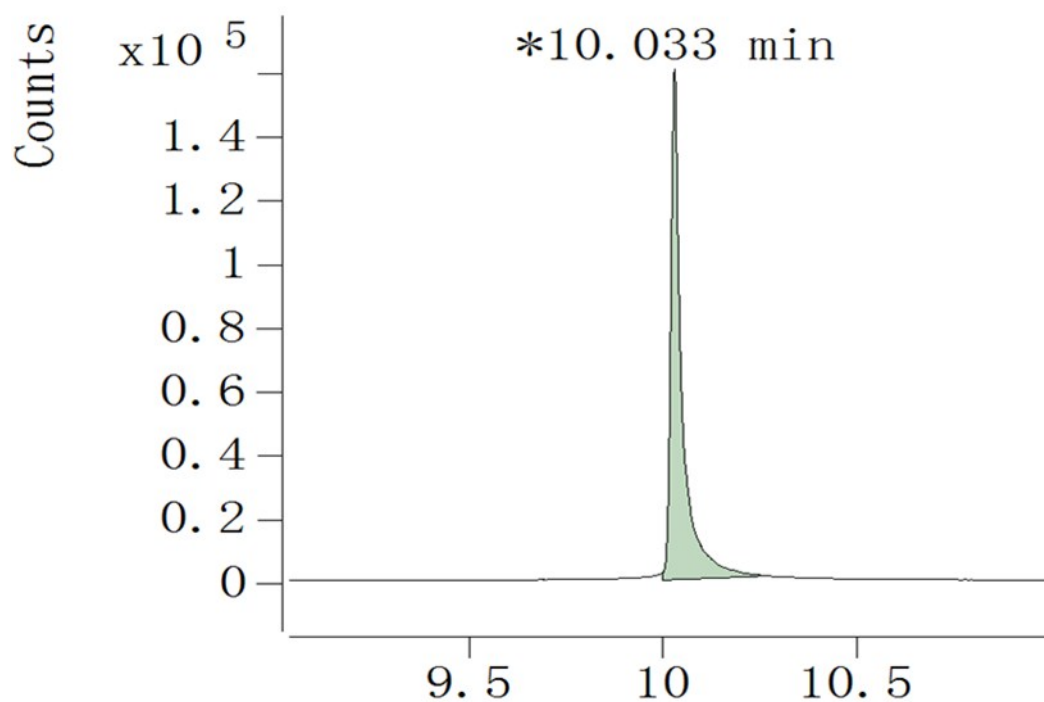


Figure S2 GC spectrum of self-coupling of benzylamines. Reaction conditions: amine (0.35 mmol), catalyst (1*3cm), O₂ balloon, room temperature.5 h.

Table S1. A summary of the performance of various semimetal oxide catalysts in the oxidation of benzylamine. Reaction conditions: catalyst (100 mg) and this work catalyst($1 \times 3 \text{ cm}^2$), benzylamine (0.5 mmol), acetonitrile solvent (10 mL), visible light irradiation (5 h), oxygen pressure (1 atm).

Entry	Catalyst	Yield
1	Nb ₂ O ₅	228 $\mu\text{mol/mg cat}$
2	ZrO ₂	175 $\mu\text{mol/mg cat}$
3	WO ₃	143 $\mu\text{mol/mg cat}$
4	This work	314 $\mu\text{mol/cm}^2 \text{ cat}$