Molecular oxygen is by far the most attractive terminal oxidant for catalyzed oxidations, one of the central transformations in organic chemistry. Guest Editor Professor Shannon Stahl has assembled a diverse set of experts in the field of catalytic aerobic oxidations, highlighting accomplishments and ongoing challenges in this important area.

Tom Rovis
aliphatic alkenyl amides
X = C, NTs; n = 1, 2

13 examples
up to 74% yield

N-heterocycles

FeCl₃·4H₂O (10 mol%)
Salicylic acid (1 equiv)
Thiourea (0 or 2 equiv)

DMSO, O₂
100–120 °C, 24 h

27–91% 
15 examples

NOₓ / Air

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