The reactions involve the use of [Rh(coe)₂Cl]₂ (5 mol%), PCy₃ (12 mol%), AlMe₂(OMe) (2.0 equiv.), DMA, 70°C, 8 h, TMSCHN₂, Et₂O/MeOH 0°C.

For the first reaction:
- Starting material: R = H
- Products: HOOC-C₄H₄-N⁺, R = H (73%), Me (21%)

For the second reaction:
- Starting material: R = H, Me
- Products: HOOC-C₄H₄-CO₂⁺, R = H (23%), Me (57%)
  - HOOC-C₄H₄-CO₂⁺, R = Me (35%), 44%