**Synthesis of LY2784544**

**Significance:** LY2784544 is a Janus kinase 2 (JAK2) inhibitor that is under development for the treatment of myeloproliferative neoplasms. The synthesis depicted delivered >100 kg of the target molecule and features a new aminomethylation reaction (E → G) involving N-methylmorpholine N-oxide and vanadium catalysis.

**Comment:** The authors speculate that the aminomethylation reaction of E involves a primary radical derived from N-methylmorpholine. An alternative ionic mechanism based on an iminium salt is unlikely since N-methylene-N-morpholinum chloride reacts preferentially at the methyl group in E (Mannich-type reaction).

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