

# SYNLETT Spotlight 4

This feature focuses on a reagent chosen by a postgraduate, highlighting the uses and preparation of the reagent in current research

## Palladium(II) Acetate<sup>3</sup>

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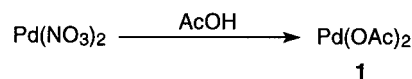
Sang-Gyun Noh received his D.Phil from Kyungpook National University, under the supervision of Professor Yong-Tae Park. He is currently a visiting scholar with Professor K. P. C. Vollhardt at the University of California at Berkeley.



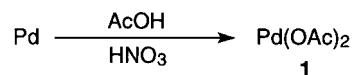
The X-ray structure of palladium(II) acetate reveals a trimeric molecule with approximate  $D_{3h}$  symmetry in which the Pd atoms are joined by acetate bridges.<sup>1</sup> The reactivity of the molecule varies depending on the nature of cocrystallizing solvent.<sup>2</sup> This reagent is stable, soluble in common organic solvents, and most often used as a catalyst precursor for Pd(0)-catalyzed processes.

### Preparation:

1) Palladium(II) acetate can be obtained as brown crystals from the reaction of palladium(II) nitrate with acetic acid.<sup>3</sup>

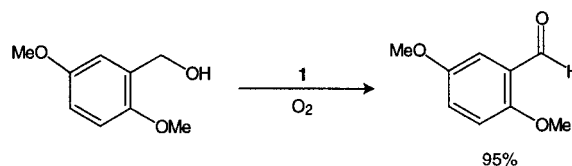


2) It can also be prepared from metallic Pd by dissolving it in acetic acid containing nitric acid.<sup>3</sup>

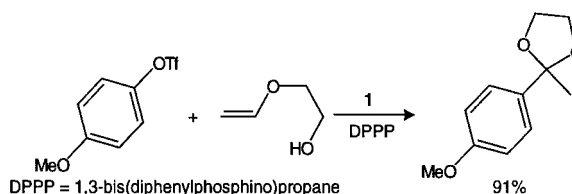


### Abstracts

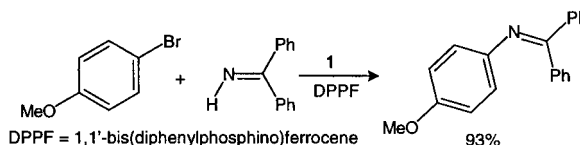
A) An efficient procedure for the palladium-catalyzed oxidation of primary and secondary allylic and benzylic alcohols to aldehydes and lactones is achieved using  $\text{O}_2$  gas as the stoichiometric oxidant.<sup>4</sup>



B) Acetals of acetophenones are directly synthesized by arylation of commercially available 2-ethenyloxyethanol and aryl triflates in the presence of a catalytic amount of **1** and DPPP.<sup>5</sup>



C) The *N*-Arylation of azoles and imines using DPPF-ligated palladium can be accomplished. Imines are markedly more reactive in these transformations.<sup>6</sup>



### References

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