

BN Heterocycles

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Direct Synthetic Route to Functionalized 1,2-Azaborinines

$$R^{1} = R^{2}$$

$$tBu$$

$$tBu$$

$$R^{1} = Fc, Ph$$

$$R^{2} = H, Bpin$$

$$tBu$$

$$R^{1} = Fc, Ph$$

$$R^{2} = H, Bpin$$

$$tBu$$

$$R^{1} = R^{2}$$

$$R^{1} = Fc, Ph$$

$$R^{2} = H, Bpin$$

$$tBu$$

$$R^{3} = R^{4}$$

$$\Delta T, 10 min$$

$$R^{3} = Fc, H$$

$$R^{3} = Fc, H$$

$$R^{4} = H$$

2+2+2: A straightforward method to access the first examples of ferrocene- and pinacolatoborane-functionalized 1,2-azaborinine derivatives has been developed

by the tandem [2+2]/[2+4] cycloaddition reactions of di-tert-butyliminoboranes and alkynes.

Dehydrogenative C-N Cross-Coupling

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Ruthenium-Catalyzed Cross-Dehydrogenative ortho-N-Carbazolation of Diarylamines: Versatile Access to **Unsymmetrical Diamines**

5 reversibly C-H activated positions

 $[\{(p\text{-cymene})\text{RuCl}_2\}_2]$ (5 mol%) Cu(OAc)₂ (2.2 equiv) PhiPr/C₂Cl₄/AcOH (0.5:2:0.5 mL) O₂, 150 °C, 24 h 19 examples. 2 possible N-nucleophiles

No-No-No: Amination of a non-acidic C-H bond, no pre-activation of the coupling partners, no chelate-assisting directing group. Dehydrogenative C-N cross-coupling through the ortho-N-carbazolation of

unprotected, secondary anilines has been achieved using a Ru catalyst with O2 as the terminal oxidant. The reactions proceed in an intermolecular fashion, selectively in the ortho position.

exclusive cross-coupling product!

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Flashback: 50 Years Ago

Unsaturated fatty acids was the topic of a Review by L. D. Bergelson and M. M. Shemyakin, who described how carbonyl olefination reactions can be sterically controlled to produce either cis or trans olefins. The topic of saturated and unsaturated fatty acids, in particular trans fatty acids, is still very much in the foreground today (for a recent Essay see Angew. Chem. Int. Ed. 2013, 52, 5220).

M. Schlosser (see Angew. Chem. Int. Ed. 2013, 52, 12483 for his Obituary) started a series of Reviews on organosodium and organopotassium compounds (such as phenylsodium or benzylpotassium). This first instalment concentrated on the properties, synthesis, and reactions of these compounds, including replacement of the metal and rearrangements.

In the Communications section, F. Jellinek et al. reported the first synthesis of allylbis(cyclopentadienyl)titanium(III), which involved the reaction of $[(C_5H_5)_2Ti^{IV}Cl_2]$ and allyl Grignard

reagents to form the product as purple crystals. G. Scheibe et al. used proton NMR measurements to investigate internal rotation in cyanine dyes. The NMR spectra of *N*,*N*-dimethyl-substituted dyes showed two signals of equal intensity for the two methyl groups, thus confirming that internal rotation is hindered.

Read more in Issue 4/1964.