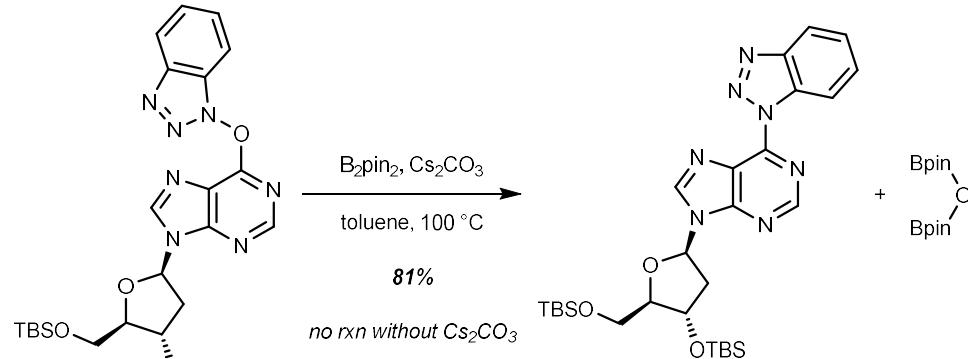
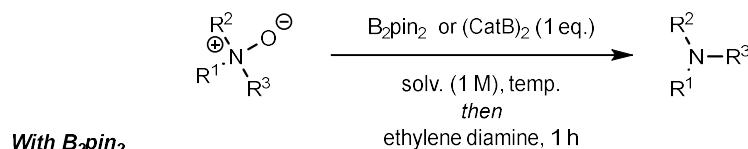


## Background (Laksman, 2008, 2011)

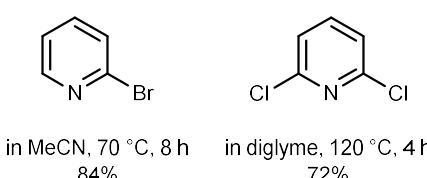
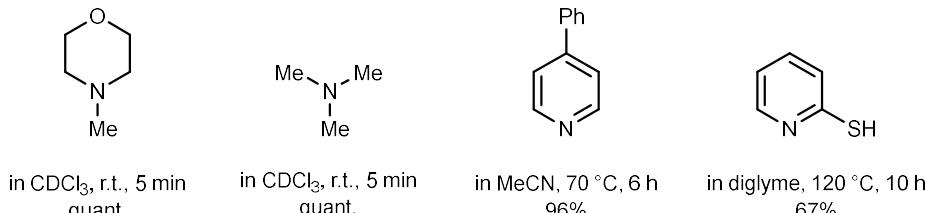
“...a unique oxygen transfer reaction between  $O^6$ -(benzotriazol-1-yl)inosine nucleosides and bis- (pinacolato)diboron (pinB-Bpin)...”



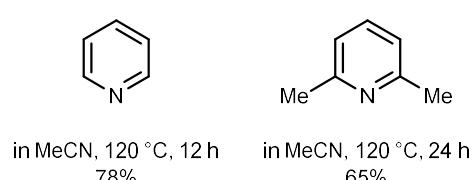
Bae, S.; Lakshman, M. K. *J. Org. Chem.* **2008**, 73, 1311. <https://doi.org/10.1021/jo7021795>



With  $B_2\text{pin}_2$

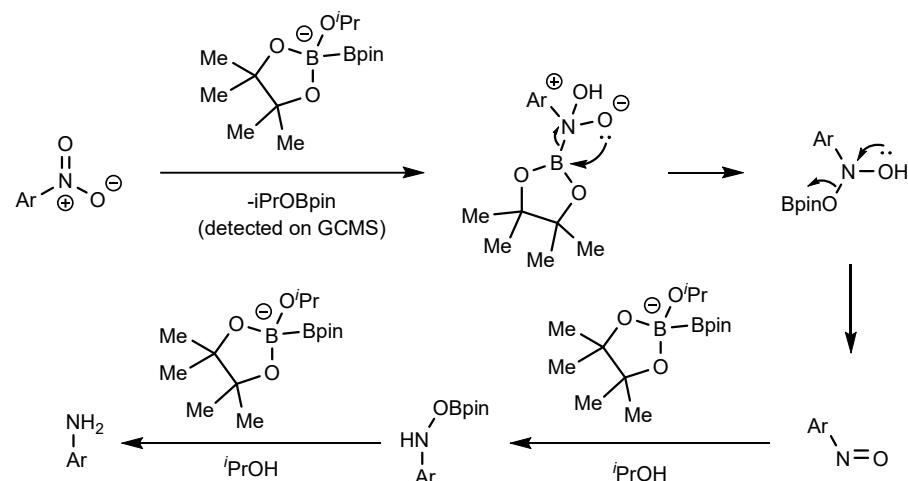
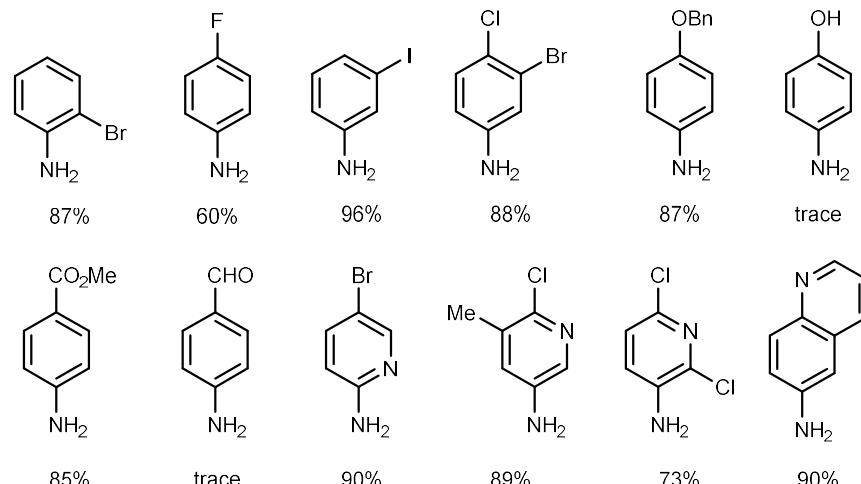
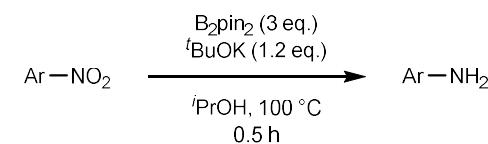


With  $(\text{CatB})_2$



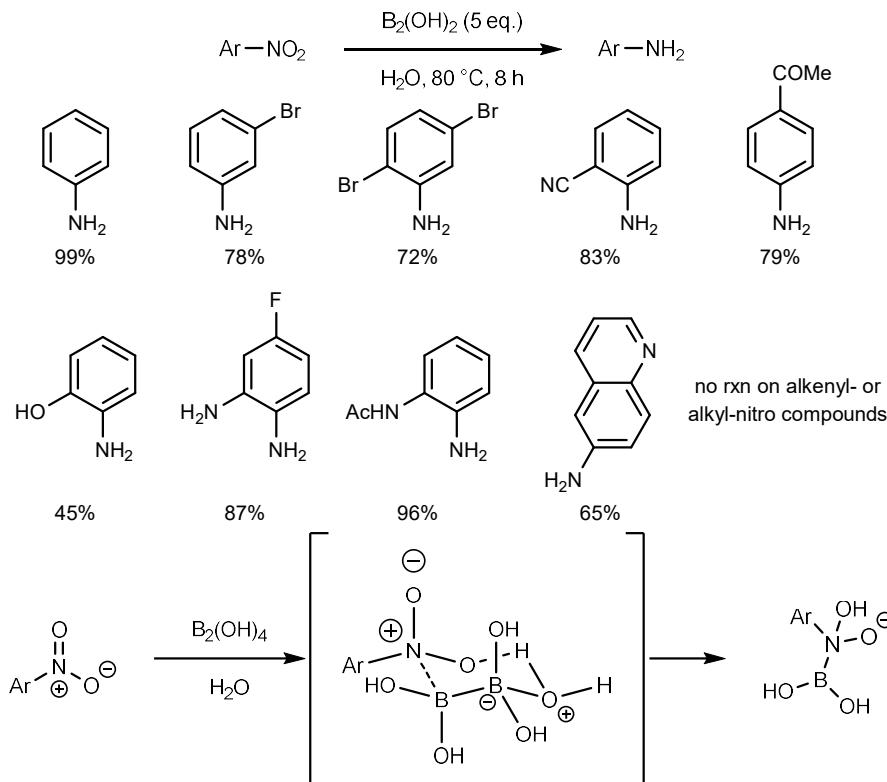
Kokatla, H. P.; Thomson, P. F.; Bae, S.; Doddi, V. R.; Lakshman, M. K. *J. Org. Chem.* **2011**, 76, 7842. <https://doi.org/10.1021/jo201192c>

## Zou and Wu and Wu, 2016



Lu, H.; Geng, Z.; Li, J.; Zou, D.; Wu, Y.; Wu, Y. *Org. Lett.* **2016**, 18, 2774. <https://doi.org/10.1021/acs.orglett.6b01274>

Zhou and Uozumi, 2018



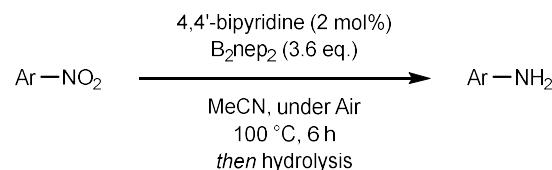
Chen, D.; Zhou, Y.; Zhou, H.; Liu, S.; Liu, Q.; Zhang, K.; Uozumi, Y.  
*Synlett* 2018, 29, 1765. <https://doi.org/10.1055/s-0037-1610086>

Similar works:

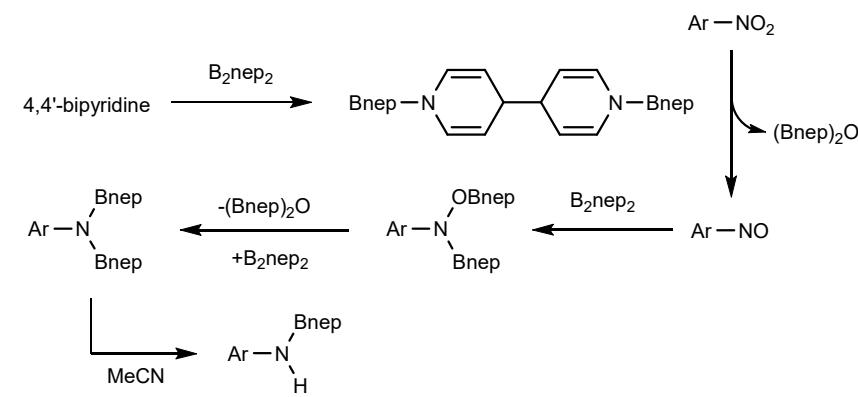
Du, H.-C.; Simmons, N.; Faver, J. C.; Yu, Z.; Palaniappan, M.; Riehle, K.; Matzuk, M. M.  
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Wang, W.; Liu, Z.; Liu, M.; Ai, Y.; Fu, Z.; Qin, C. *Tetrahedron* 2024, 162, 134130.  
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Ohmura & Sato & Tsurugi & Sugimoto & Mashima, 2019

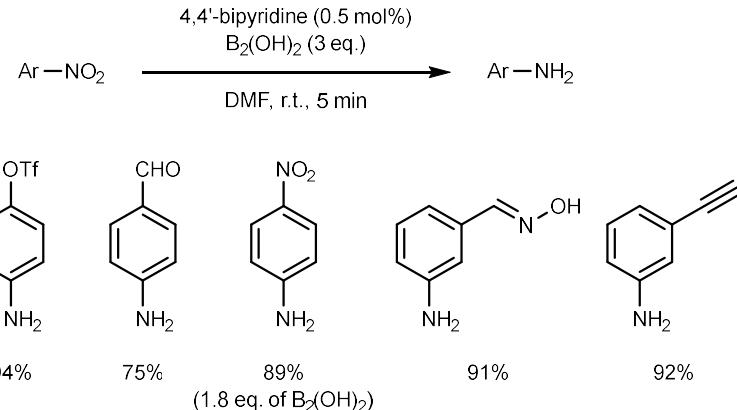


Me	F	Br	CN	NH <sub>2</sub>	NHAc	OAc	Cl
86%	74%	79%	99%	73%	82%	84%	73%



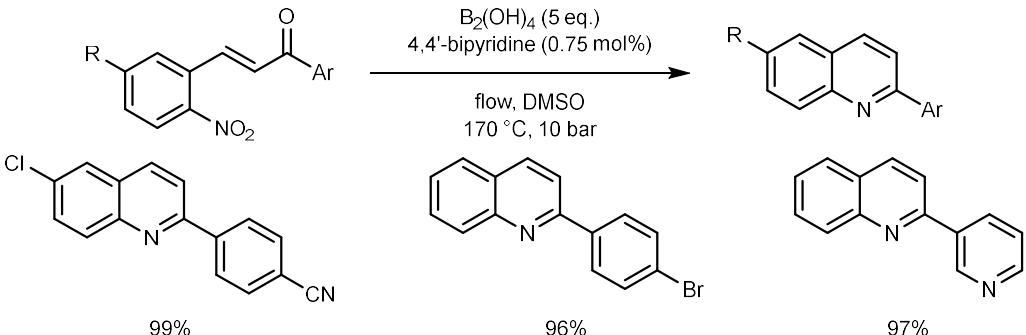
Hosoya, H.; Misal Castro, L. C.; Sultan, I.; Nakajima, Y.; Ohmura, T.; Sato, K.; Tsurugi, H.; Sugimoto, M.; Mashima, K.  
*Org. Lett.* 2019, 21, 9812. <https://doi.org/10.1021/acs.orglett.9b03419>

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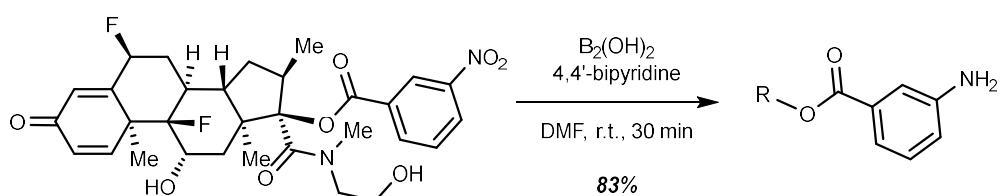


Jang, M.; Lim, T.; Park, B. Y.; Han, M. S. *J. Org. Chem.* 2022, 87, 910.  
<https://doi.org/10.1021/acs.joc.1c01431>

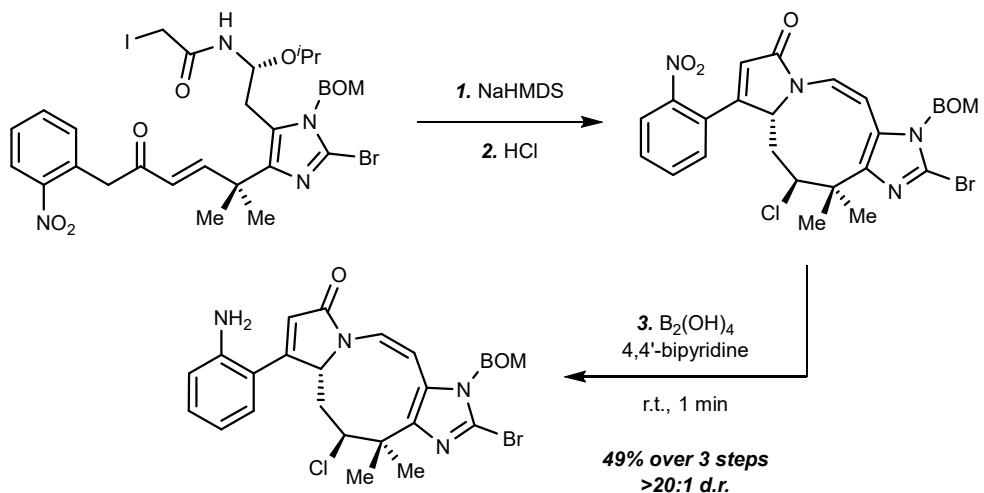
## Applications



Nagy, B. S.; Maestro, A.; Chaudhari, M. B.; Kappe, C. O.; Ötvös, S. B. *Adv. Synth. Catal.* **2024**, 366, 1024. <https://doi.org/10.1002/adsc.202301387>

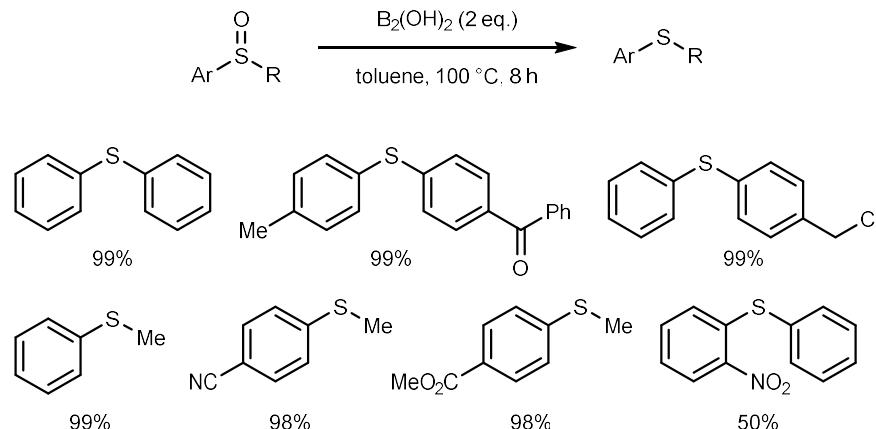


Adcentrx Therapeutics Inc.; Adcentrx Therapeutics Shanghai Co. Ltd. WO2024059237



Alexander, B. W.; Bartfield, N. M.; Gupta, V.; Mercado, B. Q.; Del Campo, M.; Herzon, S. B. *Science* **2024**, 383, 849. <https://doi.org/doi:10.1126/science.adl6163>

## Related Works



Fan, J.; Du, Y.; Zhao, R.; Liu, Q.; Zhou, H. *Tetrahedron* **2023**, *140*, 133411.  
<https://doi.org/10.1016/j.tet.2023.133411>

#### Similar work:

Laha, J. K.; Panday, S.; Gupta, P.; Seth, S. R. *Green Chem.* **2023**, *25*, 161.  
<https://doi.org/10.1039/D2GC03749A>

## *In situ* nitro group reduction-other transformation cascade:

Bai, J.; Li, S.; Zhu, R.; Li, Y.; Li, W. *J. Org. Chem.* **2023**, *88*, 3714. <https://doi.org/10.1021/acs.joc.2c02995>

Moon, H.; Lee, S. *Org. Biomol. Chem.* **2023**, 21, 8329. <https://doi.org/10.1039/D3OB01040F>  
Pan, M.; Shen, Y.; Li, Y.; Shen, C.; Li, W. *J. Org. Chem.* **2024**, 89, 8656.  
<https://doi.org/10.1021/acs.joc.4c00591>

Other applications of diboronic acid:

Zhao, Q.; Liu, X.; Astruc, D. *Eur. J. Inorg. Chem.* **2023**, 26, e202300024. <https://doi.org/10.1002/ejic.202300024>

## Borane for nitro group reduction:

Wang, T.; Wu, M.; Qiu, S.; Ming, H.; Yuan, Y.; Liu, M.; Yue, J.; Huang, F. *Tetrahedron* **2024**, 151, 133790. <https://doi.org/https://doi.org/10.1016/j.tet.2023.133790>  
Tu, J.-L.; Shen, Z. *Synlett* **2024**, DOI:10.1055/a-2322-0816 10.1055/a-2322-0816.  
<https://doi.org/10.1055/a-2322-0816>