Title:	Utility of 4-Amino-2,1,3-benzothiadiazole Directing Group in the Pd(II)-catalyzed Arylation of γ-C−H Bonds of Carboxamides and β-C-H Bonds of Amino Acid Carboxamides
Authors:	Bisht, Narendra (/jspui/browse?type=author&value=Bisht%2C+Narendra) Babu, Srinivasarao Arulananda (/jspui/browse?type=author&value=Babu%2C+Srinivasarao+Arulananda) Tomar, Radha (/jspui/browse?type=author&value=Tomar%2C+Radha)
Keywords:	Utility of 4-Amino-2,1,3-benzothiadiazole Pd(II)-catalyzed Arylation γ-C−H Bonds of Carboxamides β-C-H Bonds of Amino Acid Carboxamides
Issue Date:	2022
Publisher:	John Wiley & Sons
Citation:	Asian Journal of Organic Chemistry, 11(12), 589.
Abstract:	Expanding the availability, scope, and limitations of directing groups (DGs) for executing the site-selective C−H activation and functionalization and substrate scope development are valuable efforts. This paper reports the scope and extension of the utility of the 4-amino-2,1,3-benzothiadiazole (ABTD) directing group in the Pd(II)-catalyzed arylation of remote sp2/sp3 γ-C−H bonds of aromatic carboxamides and sp3 β-C−H bonds of amino acid carboxamides. The performance of the ABTD DG in the arylation of remote γ-C−H bonds of carboxamides and sp3 β-C−H bonds of amino acid carboxamides was compared with other known DGs. For example, we have observed that the mono arylation of the methyl sp3 β-C−H bonds of alanine carboxamide possessing the ABTD DG with iodopyridine yielded the pyridylalanine derivative. Conversely, the same reaction using 8-AQ DG did not yield the expected pyridylalanine derivative. Furthermore, 2,1,3-benzothiadiazole moiety-containing compounds are an important class of molecules in materials chemistry and medicinally relevant molecules. While this work reveals the utility of ABTD as the DG in the Pd(II)-catalyzed C−H arylation of carboxamides including amino acid derivatives. On the other hand, indirectly the process of ABTD-aided C−H arylation reactions has enabled to accomplish the synthesis of a library of 2,1,3-benzothiadiazole moiety containing new carboxamides.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1002/ajoc.202200589 (https://doi.org/10.1002/ajoc.202200589) http://hdl.handle.net/123456789/5155 (http://hdl.handle.net/123456789/5155)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF. (/jspui/bitstream/123456789/5155/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF.)		15.36 kB	Unknown	View/Open (/jspui/I

Show full item record (/jspui/handle/123456789/5155?mode=full)

(/jspui/handle/123456789/5155/statistics)