Preparation of Unsymmetrical Biaryls by the Diazo Reaction and the Nitrosoacetylamine reaction is an aryl-aryl coupling reaction via a diazonium salt. It is also known as the Gomberg–Bachmann reaction.

![Diazo Reaction Diagram](image)

The arene compound 1 (here benzene) is coupled with base with the diazonium salt 2 to the biaryl 3 through an intermediate aryl radical. For example, p-bromobiphenyl may be prepared from 4-bromoaniline and benzene:

\[
\text{BrC}_6\text{H}_4\text{NH}_2 + \text{C}_6\text{H}_6 \rightarrow \text{BrC}_6\text{H}_4-\text{C}_6\text{H}_5
\]

The reaction offers a wide scope for both diazonium component and arene component but yields are generally low following the original procedure (less than 40%), given the many side-reactions of diazonium salts. Several improvements have been suggested. One possibility is to employ diazonium tetrafluoroborates in arene solvent together with a phase-transfer catalyst, another is to use 1-aryl-3,3-dialkytriazenes.

### Pschorr reaction

One intramolecular variation which gives better results is the Pschorr reaction:

![Pschorr Reaction Diagram](image)

The group Z can be CH₂, CH₂CH₂, NH and CO (to fluorenone) to name just a few.

### See also

- Graebe–Ullmann synthesis
- Meerwein arylation
- Sandmeyer reaction
References


Contributors

- Wikipedia (CC-BY-SA-3.0)