



Science of Synthesis

Thieme

- Thieme promove os mais recentes avanços na prática clínica e é conhecida pela alta qualidade didática de seus livros, revistas e produtos eletrônicos.
- Além de publicar 70 novos títulos de livros a cada ano, a Thieme publica mais de 140 revistas médicas e científicas tanto em formato impresso tradicional quanto em formato eletrônico
- Possui uma longa história na área da saúde, atuando há mais de 125 anos.



Science of Synthesis

- É o único recurso que fornece revisão crítica de texto completo, bem como da metodologia sintética atual nos campos da química orgânica e organometálica.
- Escrito por químicos para químicos, a SOS fornece recomendações de especialistas de mais de 1.750 colaboradores, bem como informações únicas sobre o escopo e as limitações dos métodos sintéticos.

A página inicial é dividida em quatro partes:

1. Barra de navegação superior
2. Área de login pessoal

The screenshot shows the Science of Synthesis homepage. Red boxes and numbers highlight specific features:

- 1**: Points to the top navigation bar containing links like Query, Results, Full Text, Explore Contents, Teaching Resources, and Training & Support.
- 2**: Points to the user login area in the top right corner, labeled 'MySOS'.
- 3**: Points to the search bar, which includes a text input field, a 'Clear' button, a 'Draw' button, a 'Submit' button, and a 'Switch to advanced search' link.
- 4**: Points to the 'Explore Science of Synthesis' section, which is a large grid of categorized links for exploring the database content.

The 'Explore Science of Synthesis' section includes categories such as:

- New! Early View**: Synthesis of Alkanes by Palladium-Catalyzed Cross-Coupling Reactions with Carbene Precursors, Synthesis of Alkanes by α,β -Dehydrogenation, Iron-Catalyzed Cross Coupling of Aryl and Vinyl Electrophiles.
- Trends & Innovation**: Advances in Organoboron Chemistry towards Organic Synthesis, Asymmetric Organocatalysis, Base Metal Catalysis, Biocatalysis in Organic Synthesis, C-1 Building Blocks in Organic Synthesis, Catalytic Oxidation in Organic Synthesis, Catalytic Reduction in Organic Synthesis, C-H Activation, Click Chemistry, Cross Coupling and Heck-Type Reactions, Dual Catalysis in Organic Synthesis, Domino Transformations in Organic Synthesis, Dynamic Kinetic Resolution (DKR) and Dynamic Kinetic Asymmetric Transformations (DYKAT), Electrochemistry in Organic Synthesis, Flow Chemistry in Organic Synthesis, Free Radicals in Organic Synthesis, Metal-Catalyzed Cyclization Reactions, Multicomponent Reactions, N-Heterocyclic Carbenes in Catalytic Organic Synthesis, Photocatalysis in Organic Synthesis, Stereoselective Synthesis, Water in Organic Synthesis.
- Functional Groups**: X-CR₃X, X=C=C=X, X₂C=C=X, CX₃ Compounds, Nitriles, Isocyanides, and Derivatives, Acid Halides, Carboxylic Acids, Esters, Anhydrides, Peroxy Acids, Amides and Derivatives, Peptides, Lactams, Thio-, Seleno-, and Tellurocarboxylic Acids, Imidic Acids, Ortho Acids, Ketenes, Ketene Acetals, Yne-X Compounds, Aldehydes, Ketones, Heteroatom Analogues of Aldehydes and Ketones, Quinones and Heteroatom Analogues, Acetals: Hal/X and O/O, S, Se, Te, Acetals: Q/N, S/S, S/N, and N/N and Higher Heteroatom Analogues, Arene-X (X = Hal, O, S, Se, Te, N, P), X-Ene-X (X = F, Cl, Br, I, O, S, Se, Te, N, P), Ene-Hal, and Ene-O Compounds, Ene-X Compounds (X = S, Se, Te, N, P), Fluoroalkanes, Chloro-, Bromo-, and Iodoalkanes, Alcohols, Alkyl Ethers, Peroxides, Alkylsulfur-, selenium-, and tellurium Compounds, Alkylamines, Ammonium Salts, Amine N-Oxides, Halamines, Hydroxylamines and Sulfur Analogues, Hydrazines, Nitro, Nitroso, Azo, Azoxy, Diazonium Compounds, Acides, Triazines, Tetrazines, Organophosphorus Compounds.
- Heteroarenes**: Small-Ring Heterocycles, Monocyclic Five-Membered Heteroarenes with One Heteroatom, Fused Five-Membered Heteroarenes with One Heteroatom, Five-Membered Heteroarenes with One Chalcogen and One Additional Heteroatom, Five-Membered Heteroarenes with Two Nitrogen or Phosphorus Atoms, Five-Membered Heteroarenes with Three or More Heteroatoms, Six-Membered Heteroarenes with One Chalcogen, Six-Membered Heteroarenes with One Nitrogen or Phosphorus Atom, Six-Membered Heteroarenes with Two Identical Heteroatoms, Six-Membered Heteroarenes with Two Unlike or More Than Two Heteroatoms, Larger Hetero-Rings.
- Hydrocarbons**: Polyynes, Arynes, Eynes, Alkynes, Cumulenes, Allenes, Arenes, Quaternary, Annulenes, Polyenes, 1,3-Dienes, Alkanes, Alkenes.
- Organometallics**: Ni, Pd, Pt, Co, Rh, Ir, Fe, Ru, and Os Compounds (Groups 10-8), Mn, Cr, V, Ti, Zr, Hf, Nb, Ta, and Sc Compounds (Groups 7-9), Zn, Cd, Hg, Cu, Ag, and Au Compounds (Groups 12 and 11).

3. Caixa de pesquisa por texto e citação, além de busca por estrutura e/ou reação
4. Área de destaque

A página de resultados é dividida em três partes:

1. Ferramentas de refinamento lateral
2. Ferramentas de visualização de resultados
3. Resultados de busca

Thieme Science of Synthesis

Help | Safety Statement | About Science of Synthesis | About Thieme Chemistry

Query Results Full Text Explore Contents Training & Support MySOS

1 REFINE

FILTER BY:

- ☒ No role assigned (272)
- ☒ Reaction catalyst (1673)
- ☒ Reaction product (2796)
- ☒ Reaction reactant (2230)
- ☒ Reaction reagent (113)
- ☒ Reaction solvent (3)

FILTER BY MATCH TYPE:

- ☒ Exact (92)
- ☒ Similar (166)
- ☒ Substructure (4529)

SORT HITLIST:

- ☒ By relevance
- ☐ By publication date

Update

Results (Articles found containing your search term, structure or reaction)

Hide All Reactions Page: 1 10 2

Select Page Update Hit List Delete Hits After This Page Reset Hit List

☒ Lead Compounds #1 of 4655

5.3 Product Class 3: Lead Compounds

Moloney, M. G., *Science of Synthesis*, (2003) 5, 619.

Hide Reaction Show Full Text Show TOC Show Single Step Reactions

5 mol% Pd₂(dba)₃·CHCl₃
CHCl₃, rt, 10 min
53–81%

R¹Pb(OAc)₃ → R¹—R¹

R¹ = Ph, Ar¹, 2-thienyl, C≡CR²

5 mol% Pd₂(dba)₃·CHCl₃
10 mol% CuI, NaOMe (6 equiv), DME/MeCN (1:1)
71–80%

Ar¹Pb(OAc)₃ + R¹B(OH)₂ → Ar¹—R¹

Ar¹ = Ph, 4-MeOC₆H₄, 2-furyl, 3-furyl, 2-thienyl; R¹ = Ph, Ar², (E)-CH=CHPh

5 mol% Pd₂(dba)₃·CHCl₃
NaOMe (4 equiv), MeOH/MeCN (1:1), rt, 3 h
62–75%

Ar¹Pb(OAc)₃ + Ar²IPh⁺ BF₄[−] → Ar¹—Ar²

Ar¹ = Ph, 4-MeOC₆H₄, 2-thienyl; Ar² = Ph, 4-MeOC₆H₄, 2-thienyl, (E)-CH=CHPh

☒ Monoarylcopper(I) Compounds #2 of 4655

3.4.1.3.4 Method 4: Biaryl Syntheses from Aryl Halides and Copper(I) Salts

Heaney, H.; Christie, S., *Science of Synthesis*, (2004) 3, 361.

Hide Reaction Show Full Text Show TOC Show Single Step Reactions

copper thiophene-2-carboxylate, NMP
97%

CO₂Me

CO₂Me

A página do conteúdo é dividida em três partes:

1. Navegação entre lista de resultados
2. Ferramentas diversas: Download PDF; imprimir; citação; informações
3. Navegação entre conteúdos

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Query Results Full Text Explore Contents Training & Support MySOS

One Satura ... » Iodoalkane ... » Synthesis ... » Synthesis ... »

1 NAVIGATION
Hit 1 of 491
Previous / Next

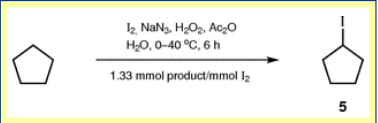
SOS Science of Synthesis
Knowledge Updates 2015/2

35.3.1.1.6.3 Azide-Induced Oxidative Iodination with Hydrogen Peroxide and Acetic Anhydride
DOI: 10.1055/sos-SD-135-00098

Iskra, J., *Science of Synthesis Knowledge Updates*, (2015) **2**, 388.

The environmentally friendly oxidant hydrogen peroxide, acetic anhydride, and sodium azide are used for the **oxidative** iodination of various alkanes and cycloalkanes in an aqueous/organic biphasic mixture (**Scheme 3**).^[4] Acetic anhydride and sodium azide have to be used in excess to improve the efficiency with respect to iodine incorporation using the organic hypervalent iodine precursor. The yields for this reaction are given as the ratio between mmol of isolated iodinated compound per mmol of added molecular iodine. For example, iodocyclopentane (**5**) is obtained in a yield of 1.33 mmol per mmol of molecular iodine.

Scheme 3 Azide-Promoted Iodination in the Presence of Hydrogen Peroxide and Acetic Anhydride^[4]



Iodocyclopentane (5); Typical Procedure:^[4]

CAUTION: Hydrogen peroxide having concentrations of 50% or more is very hazardous and can explode violently, particularly in the presence of certain inorganic salts and easily oxidizable organic material.

CAUTION: Sodium azide can explode on heating and is highly toxic. Contact of metal azides with acids liberates the highly toxic and explosive hydrazoic acid.

Ac₂O (1.2 mL), H₂O (0.5 mL), and NaN₃ (0.20 g, 3 mmol) were sequentially added to a cooled soln (water/ice bath) of I₂ (0.25 g, 1 mmol) in cyclopentane (5 mL). 30% aq H₂O₂ (0.3 mL) was added and the mixture was vigorously stirred at 40 °C for 6 h. The mixture was poured into sat. aq NaHCO₃ (20 mL) this mixture was washed with 5% aq Na₂S₂O₃ (15 mL). The organic layer was dried (Na₂SO₄) and the excess pentane was recovered by distillation. The yellowish residue was purified by column chromatography (hexanes); yield: 0.26 g (1.33 mmol).

References

- A Dot.Lib é uma empresa brasileira dedicada à disseminação da informação científica através do fornecimento de acesso online a livros digitais, periódicos eletrônicos e bases de dados nas mais diversas áreas do conhecimento.
- Dotlib TV, um canal repleto de vídeos de conteúdos, tutorias e ferramentas que cobrem as mais diversas áreas de conhecimento. Acesse essas e outras informações, aqui, no nosso canal.



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