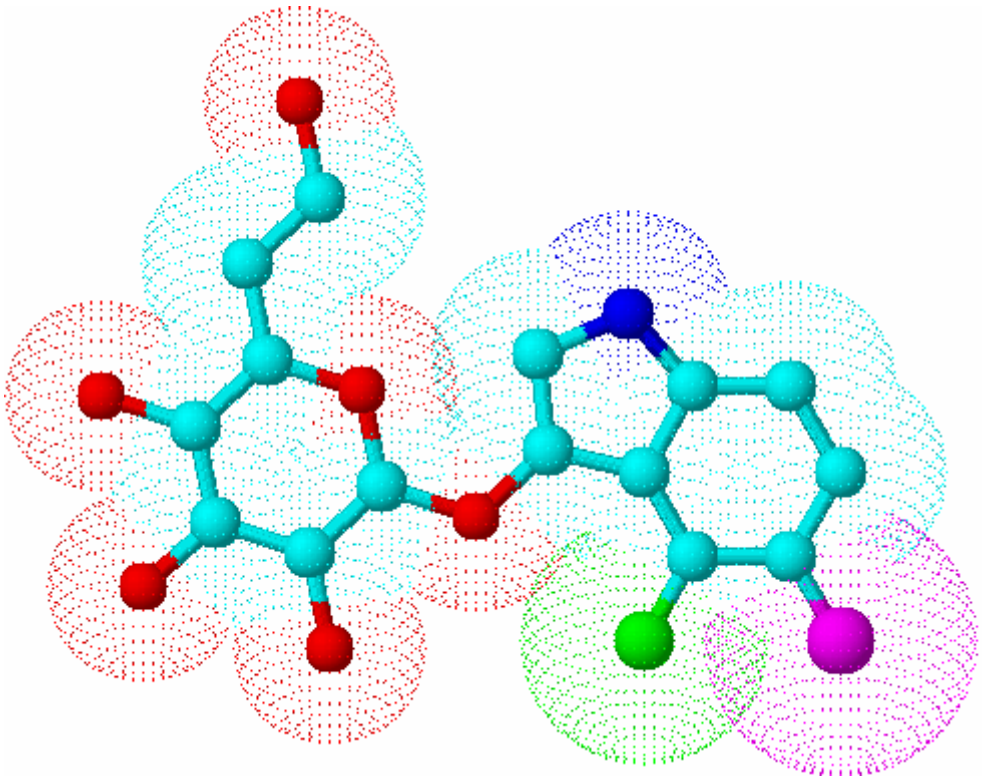
AraChem

Bioorganic



X-Gal

5-Bromo-4-chloro-3-indolyl β-D-galactoside

(Chromogenic substrate for β-galactosidase)

Making Chemistry Yours

AraChem-*Bioorganic* is a division of AraChem Contract Research & Custom Synthesis. Our experience in the field of organic synthesis, backed up by the large expertise of the members of our scientific board/network, allow us to respond and satisfy consistently your specific requirements.

AraChem-*Bioorganic* offers dedicated customer-oriented services on an exclusive basis. We are committed to confidentiality, reliability and delivery of quality products. The services offered by the Bioorganic-Division cover the following fields:

✓ Peptide Chemistry

- Solid phase peptide synthesis for exploratory research purposes. The research peptides can be delivered with different degree of purity and can be modified or labelled according to the customer needs (N-terminal: acetylation, formylation, fatty acid; C-terminal: amidation; Fluorescence dye labelling at N-terminal: 6-FAM, EDANS, DABCYL, biotin…)
- Multi-gram scale solid/liquid phase peptide synthesis (Contract Manufacturing). All peptides are delivered with HPLC chromatogram and Mass spectrum.
- Beside these services we can also offer the following products for peptide synthesis:
  - Protected α-amino acids
  - Unnatural amino acids (β-amino acids, N-Methyl-α-amino acids,…)
  - Coupling reagents for peptide synthesis
  - Fluorescent dyes for labelling of peptides.

✓ Carbohydrate Chemistry

We can offer at kilograms scale high quality carbohydrate derivatives as well as oligosaccharides tailored to the special need of the customer.

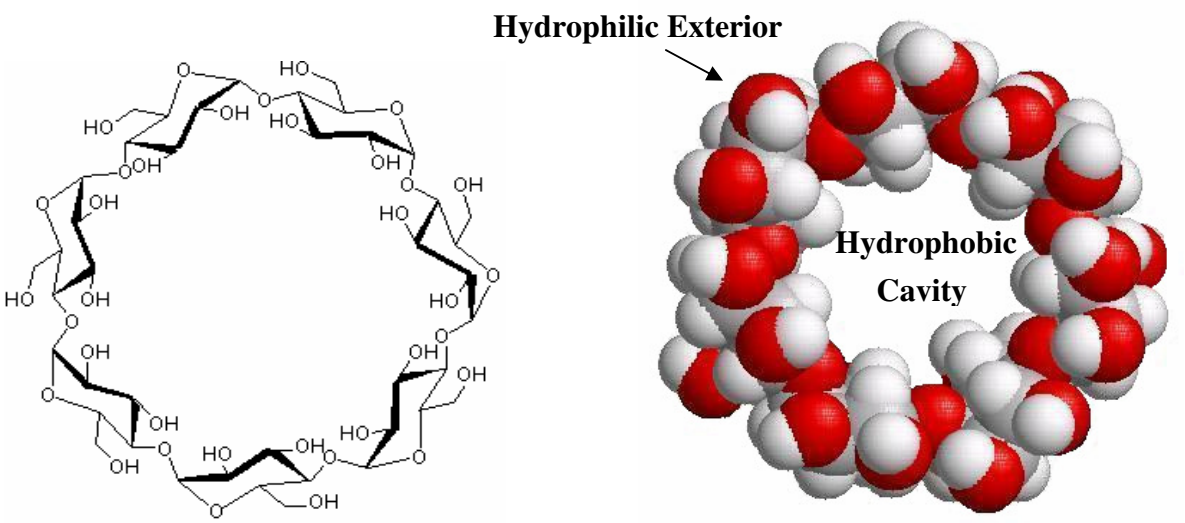
Below are listed the major groups of derivatives that can be supplied at kilograms quantity:

- Acetal derivatives and selectively protected monosaccharide (1,2:5,6-Di-*O*-isopropylidene-*α*-D-glucofuranose, 1,2-*O*-Isopropylidene-*α*-D-glucofuranose, acetobromo-α-D-glucose…)
- Unsaturated monosaccharide
- 1,6-Anhydro monosaccharide
- Thio-monosaccharide (1-Thio-*β*-D-glucose tetraacetate, 5-Thio-D-glucose…)
- Oxidation Products: Aldobionic acids (lactobionic acid and its salts…), aldonic acids and lactones (arabinonic acid, ribonic acid…), alduronic acids (D-glucuronic acid and derivatives…)

- Disaccharides derivatives.
- Alkylglycosides (Octyl-α-D-glucopyranoside,…)

Other mono/polysaccharide products are also available from shelf or on request.

***AraChem**-Bioorganic* has also acquired a large expertise in the field of cyclodextrins chemistry. Cyclodextrins are cyclic oligosaccharide formed of 6 (alpha-α), 7 (beta-β) or 8 (gamma-γ) D-glucose units. They are produced by the action of a specific enzyme on starch and form inclusion complex with several organic molecules.



Structure of β-Cyclodextrin

Cyclodextrins are used in formulation of pharmaceuticals to increase the chemical stability of drugs and to enhance their delivery to and through biological membranes. We can offer cyclodextrins with different substituent /degree of substitution useful in the preparation of inclusion complexes as well as cyclodextrins of which a defined hydroxyl group(s) of a D-glucose unit(s) is (are) selectively protected or modified.

- Some of selectively protected β-cyclodextrins
  - Heptakis-6-(dimethyl-tert-butylsilyl)-β-cyclodextrin
  - Heptakis-(2,6-di-O-methyl)-β-cyclodextrin
  - Heptakis-(2,3-di-O-methyl)-β-cyclodextrin
  - Heptakis-(2,3-di-O-acetyl)-β-cyclodextrin

- Some of selectively modified β-cyclodextrins
  - 6-Monodeoxy-6-monotosyl-β-cyclodextrin
  - 6-Monodeoxy-6-monoamino-β-cyclodextrin hydrochloride
  - Heptakis-6-iodo-6-deoxy-β-cyclodextrin
  - Heptakis-6-bromo-6-deoxy-β-cyclodextrin

Other derivatives of β-cyclodextrin as well as derivatives of α-cyclodextrin and γ-cyclodextrin are also available at our site/subsidiary www.cyclodextrin-shop.com.

✓ Enzymes substrates

AraChem-Bioorganic offers a wide variety of chromogenic and fluorogenic substrates for different enzymes such as Glycosidases, Esterases, Phosphatases…

Below are listed some of the substrates offered by AraChem

- X-gal (X-beta-D-gal): 5-Bromo-4-chloro-3-indoxyl-beta-D-galactopyranoside
- X-butyrate: 5-Bromo-4-chloro-3-indoxyl butyrate
- 4-MU-beta-D-glc: 4-Methylumbelliferyl-beta-D-glucopyranoside
- H-Ala-AMC.TFA: L-Alanine 7-amido-methylcoumarin, trifluoroacetate salt

For specific substrates, please contact our office at the address below.

✓ $^{[14]}$C-labelled Organic Compounds

AraChem-Bioorganic can offer the customer $^{[14]}$C-labelled organic compounds on custom synthesis basis at very competitive price. Please contact our office at the address below to discuss your specific needs.

Please direct your inquiries to

AraChem

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