

MEETING

Second international conference on methods of preparing and storing labelled compounds

BRUSSELS, 28 November - 3 December, 1966

PRELIMINARY PROGRAMME

Lectures

- H. LETTRE — Recent results in cancer research using labelled compounds.
D. RITTENBERG — Historical development of the field of the synthesis and analysis of stable isotopes.

REVIEWS ON PREPARATION METHODS AND TRACER APPLICATION

- J. L. GARNETT — Recent developments in heterogeneous catalytic labelling with D_2 and 3H .
A. P. WOLF — Radiochemical methods of labelling.
R. WOLFGANG — Mechanism and intrinsic limitation of 3H labelling.
R. PAOLETTI — The use of drugs in biosynthetic preparation of labelled sterols and sterol precursors.
H. K. MANGOLD — Synthesis and biosynthesis of labelled lipids.
R. CARDINAUD — Nucleic acids - nucleotides and nucleosides biosynthetically labelled.
L. PICHAT — Some recent chemical synthesis of labelled compounds.
A. BALABAN — Intramolecular isotopic rearrangements of carbon atoms.
J. G. BURR — Tracer applications in organic radiation chemistry.

Communications (main topics to be discussed)

CHEMICAL SYNTHESIS

Methods improved:

Reduction of carboxylic acids by $LiAlH_4$; new homogeneous catalytic techniques; tritio-boration labelling; exchange reaction of nucleosides with ^{32}P ; methylene

insertion reactions; use of vinylmagnesium bromide; transcarboxylation in presence of $^{14}\text{C}\text{O}_2$; Wittig reaction; Amadori rearrangement; catalytic tritiations (AlCl_3).

Compounds prepared:

- ^{14}C Adrenaline (ring); azacholesterol and cholestane derivatives; L-asparagine; L-glutamine; glutathion; D.L-hydroxyproline and D.L-allohydroxyproline; cyclic ketones; D.L-aspartic acid; D.L-diaminobutyric acid; D.L-homoserine; mono and divinylacetylene; α,β -unsaturated and hydroxypalmitic acids; etc.
High specific activity ^{14}C compounds: bipyridilium salts; Ph-pyrimidine; Me-Ph-S-triazine; α,β -deoxyadenosine; cyclopentadiene; benzene; butanol; isohexanol; aminopropanol; etc.
- ^3H Noradrenaline; phenoxybenzamide; cyclohexene; metanephthrine; morphine derivatives; α -methyl dopa; α -methyltyrosine and analogs; etc.
- 125 or ^{131}I ^{131}I -*p*-iodohyppuran; 125 or ^{131}I -iodometanephthrine; ^{131}I -labelled oils; 125 or ^{131}I -triolein; 125 or ^{131}I -oleic acid; etc.
- ^{32}P Parathion and other insecticides; nucleotides and oligonucleotides; etc.
- ^{13}C Propene; 1,2- ^{13}C -tetra deuteriobenzene; etc.
- D_2 α -carboxylic-acids; linear fatty acids; trimethylamine alkynes; diphenylacetylene; methylaromatic acid; heterocyclic compounds; formaldehyde; etc.

RADIOCHEMICAL SYNTHESIS

Labelling by $^{197,203}\text{Hg}$ using ion exchange; labelling by exchange with carrier free ^{32}P ; radiation induced exchange with halides isotopes; radiation induced tritium exchange; tritium exchange labelling of steroids and bile pigments; polystyrene exchange tritiation; exchange tritiation of protein; recoil labelling of Hg and Br compounds; tritiation by reduction with recoil LiAlH_4 .

BIOCHEMICAL SYNTHESIS

^{59}Fe -ferritin from grown Hela cells; leaves photosynthesis of high sp.ac. ^3H carbohydrates; high sp.ac. nucleotides; amino acids and sugars from grown chlorella; ^{14}C humic acid formation in soil; ^{14}C - ^3H - ^{35}S - ^{15}N labelling of S-adenosylmethionine from yeast culture; ^{32}P labelling of plasma phospholipoprotein.

ASSAYING

Tritium scanning; application of solubility phase equilibrium to purification of high sp.ac. complex compounds; routine purity of compounds labelled with short life isotopes; electron microscopic investigation of radioautographs; counting of pure $^{14}\text{CO}_2$ in the proportional region; measurements of ^3H after conversion to ammonia; degradation by pyrolytic radio-gas-chromatography; etc.

STABILITY AND STORAGE

^3H thymidine; ^3H hexoestrol; $^{125}, ^{131}\text{I}$ -thyroxine; high sp.ac. phenoxybenzamine; etc.

GENERAL INFORMATION*Complete programme:*

The final programme as well as complimentary general information will be circulated in the beginning of September 1966.

Exhibition:

About thirty firms will exhibit laboratory apparatus, mainly those used in the synthesis of labelled compounds and tracer technology. The most important producers of labelled compounds will also be represented.

Visits:

Visits to Community Laboratories during the days following the Conference will be arranged for participants who have applied beforehand. Further particulars on these visits will be circulated later.

Address:

Correspondance and documents should be forwarded to:

EURATOM — Labelled Compounds
51-53, rue Belliard — Bruxelles (Belgique).