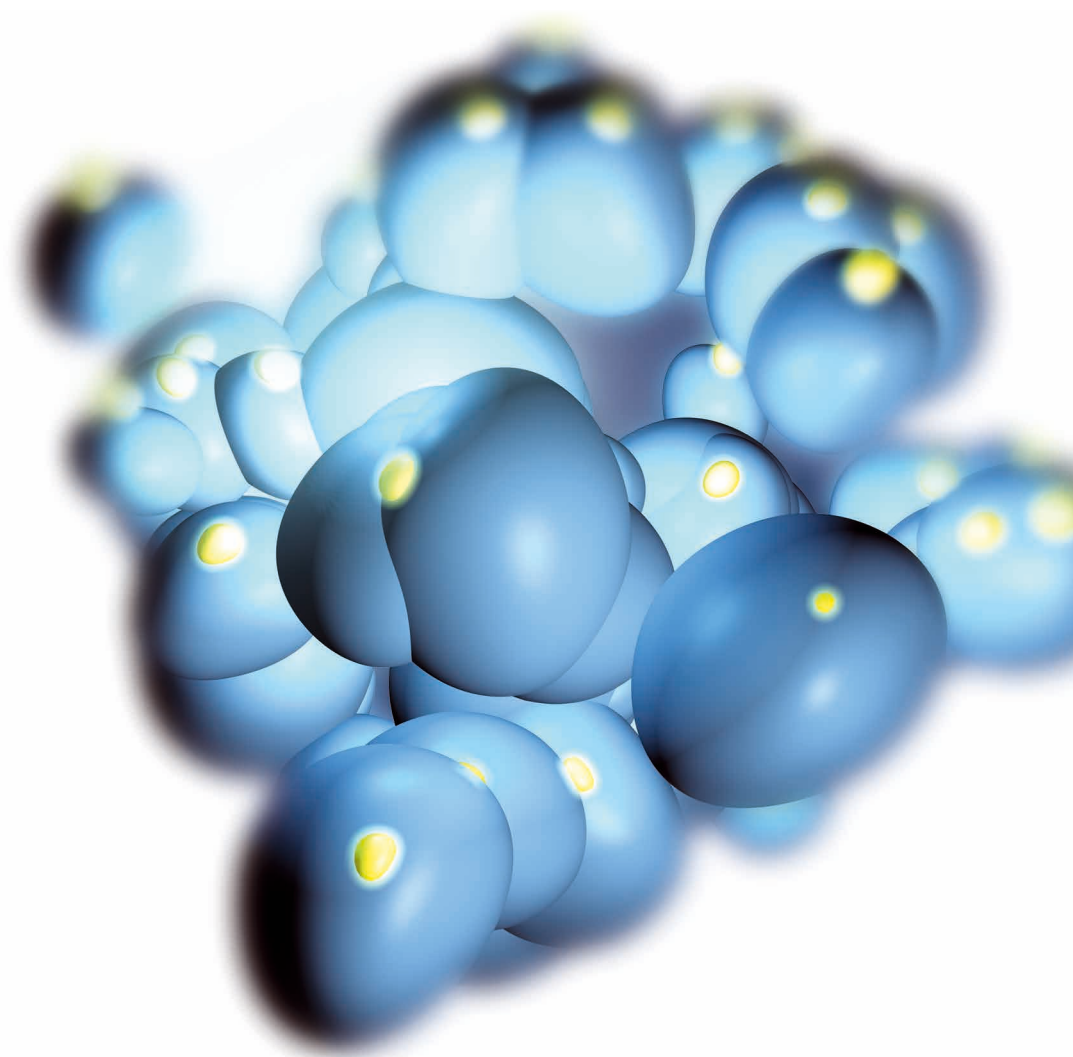


BioSyntheSizer

Multi-Synthesis Robot



GESIM

**The GeSiM BioSyntheSizer – Result
of a joint research project supported
by the BMBF (FKZ: 13N10271)**



Work plate of the BioSyntheSizer, a multi-synthesis radiopharmaceutical robot that is also suitable for other chemical syntheses

Unique features for radiopharmaceutical and other syntheses

- Up to eight different validated radiochemical syntheses per day without manual interaction
- XYZ robotic stage with moving multi-tool head for e.g. camera, vacuum gripper, Luer connectors, pneumatic powder dispenser, and evaporation pipette
- Novel synthesis procedures established for [^{18}F]FDG, [^{18}F]FLT, [^{18}F]FMISO, [^{18}F]NaF, [^{18}F]FES, [^{18}F]FET, [^{18}F]SFB-peptides and [^{68}Ga]peptides
- Eight kit plates featuring reactor, reagent, and SPE purification and separate cannula reservoirs
- Diverse other chemical syntheses possible
- Highly versatile graphical programming environment for the development of new tracers
- Expandable, with more features to come in the future



Desktop version of the BioSyntheSizer. The multi-tool head is equipped with QC camera, vacuum gripper, Luer connector, and evaporation pipette. The F-Box is the electronic brain of the instrument.



Complete setup arranged in a standard hot cell (W x D x H: 100 cm x 80 cm x 100 cm)

Technical specifications

- Modular design, scalable size
- Prepared for N₂ protection gas
- Customized configuration of the multi-tool head
- Reactor conditions: temperature up to 150 °C, pressure up to 800 kPa (8 bar)
- GUI-based Windows software to design new and arrange preinstalled synthesis steps of the kit manufacturer
- LIMS support based on Ethernet and EtherCAT interfaces

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