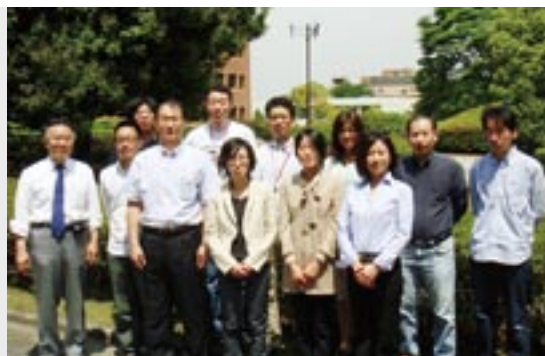


Instrument Center

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Instrument Center was organized in April of 2007 by integrating the general-purpose facilities of research center for molecular-scale nanoscience and laser research center for molecular science. The mission of Instrument Center is to support the in-house and external researchers in the field of molecular science, who are conducting their researches with the aid of general-purpose instruments such as ESR, x-ray diffractometer, fluorescence spectrometer, *etc.* The staffs of Instrument Center maintain the best condition of the machines, and provide consultation for how to use them. The main instruments are NMR (JEOL JNM-LA500, JEOL JNM-LA400), mass spectrometer (Voyager DE-STR), powder x-ray diffractometer (Rigaku RINT-Ultima III), and circular dichroic spectrometer (JASCO JW-720WI) in Yamate campus and ESR (Bruker E680, E500, EMX Plus), SQUID (Quantum Design MPMS-7, MPMS-XL7minTK), powder (MAC Science MXP3) and single-crystal (Rigaku Mercury CCD, RAXIS IV, 4176F07) diffractometers, thermal analysis instrument (TA TGA2950, DSC2920, SDT2960), fluorescence spectrophotometer (SPEX FluorogII), UV-VIS-NIR (Hitachi U-3500) spectrophotometer, excimer+dye laser system (LPX105i+LPD3002), Nd-YAG+OPO laser (GCR-250), and excimer laser (Complex 110F) in Myodaiji campus. Instrument Center provides liquid nitrogen and liquid helium using helium liquefiers. The staffs of Instru-

ment Center provide consultation for how to treat liquid helium, and provide various parts necessary for low-temperature experiments. Instrument Center supports also the network sharing system of the chemistry-oriented instruments, which started in the April of 2007.

In the fiscal year of 2008 (April 2008 to March 2009), Instrument Center introduced new equipments shown below: Differential scanning calorimeter (VP-DSC) [Yamate campus], Isothermal titration calorimeter (iTC200) [Yamate campus], X-ray fluorescence spectrometer (JEOL JSX-3400RII) [Myodaiji campus]. The excimer laser of Excimer+dye laser system (Lambda physics LPX 105i + LPD3002) [Myodaiji] was renewed, and Picosecond tunable laser system (TSUNAMI-TITAN-TOPAS) [Myodaiji campus] was transferred from the research group of Professor Nishi. Instrument Center accepted 61 applications from 29 institutions outside of IMS. The users mainly used SQUID (22), ESR (20), x-ray diffractometer (24), circular dichroism spectrometer (6), thermal analysis instrument (5), mass spectrometer (4), NMR (2), and Excimer-dye laser (3), where the numbers in parenthesis shows the number of use by external users. Instrument Center provided 54,716 ℓ of liquid helium, 71,964 ℓ of liquid nitrogen, and 1,406 m³ of nitrogen gas.



Figure 1. Differential scanning calorimeter (VP-DSC).



Figure 2. Isothermal titration calorimeter (iTC200).



Figure 3. X-ray fluorescence spectrometer (JEOL JSX-3400RII).



Figure 4. Picosecond tunable laser system (TSUNAMI-TITAN-TOPAS System).

Figure 5. Excimer+dye laser (Lambda physics LPX 105i + LPD3002)

