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-renewable materials and
utilizing the new materials for pharmaceutical and environmental
applications
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Radiochemistry

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Atmospheric Chemistry and Environmental Spectroscopy
The main research goal of my research group to apply infrared spectroscopic techniques in environmental and atmospheric detection of trace gases. Our measurements assist in gaining insights onto fundamental photophysical and photochemical processes, as well as the fate of reactive and nonreactive trace gases in urban and suburban environments. In the first project, we utilize a high precision continuous wave Cavity Ring Down Spectroscopic (CRDS) for ground-based measurements of dry mixing ratios of methane (CH_4), carbon dioxide (CO_2) and carbon monoxide (CO) within the shallow boundary layer of the atmosphere. In the second project, mid and near infrared spectroscopic techniques are employed to detect and quantify nonmethane hydrocarbons (NMHC) as methane tracers in the environment. In addition to playing a significant role in tropospheric chemistry and ozone formation, these NMHC provide

