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Abstract for an Invited Paper
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Single and Multiphoton Ionization of Chiral Molecules

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We will show how linear, planar and chiral molecules react to circular polarized light. We will discuss single photon ionizations and ionization and fragmentation in a strong laser field measured with a COLTRIMS Reaction Microscope. We will discuss the following findings:

- Circular polarized light leads to chiral electron emission pattern even for achiral species.
- Chirality can be enantioselectively induced in a planar molecules by a femtosecond laser pulse.
- Photoelectron and photoion circular dichroism is enhanced by an order of magnitude whenever at least one momentum vector of one particle is measured.