Abstract Submitted
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**Optically Active Sum-Frequency Generation from Solution of Molecules with a Chiral Center**[1] NA JI, YUEN-RON SHEN, Department of Physics, UC Berkeley — Optically active sum frequency generation (OA-SFG) is being developed as a novel probe for investigation of molecular chirality. We report here the first attempt of OASFG to study chirality of molecules with a chiral center but an intrinsically achiral chromophore in isotropic solution. We used amino acids in 4M NaOH solution as the model systems, and found that similar to circular dicroism (CD), OA-SFG near electronic resonance appears to originate from the extrachromophoric chiral perturbation on the carboxyl chromophore. The difference between CD and OA-SFG, however, is in the details of the perturbations pertinent to the two effects, giving rise to different relative strengths of OA-SFG and CD among different amino acids. A general theoretical formulation for OA-SFG from molecules with chiral centers will be presented.

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