1. Record Nr. UNINA9910298615903321 Autore P. Dicks Andrew Titolo Green Chemistry Metrics: A Guide to Determining and Evaluating Process Greenness / / by Andrew P. Dicks, Andrei Hent Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2015 **ISBN** 3-319-10500-0 Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (95 p.) Collana SpringerBriefs in Green Chemistry for Sustainability, , 2212-9898 Disciplina 546.34 Soggetti Chemical engineering Science education Organic chemistry Industrial Chemistry/Chemical Engineering Science Education **Organic Chemistry** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references. Nota di contenuto Green Chemistry and Associated Metrics -- Atom Economy and Reaction Mass Efficiency -- The E Factor and Process Mass Intensity --Selected Qualitative Green Metrics -- An Introduction to Life Cycle Assessment. Sommario/riassunto This contribution to SpringerBriefs in Green Chemistry outlines and discusses the four major green chemistry metrics (atom economy, reaction mass efficiency, E factor and process mass intensity), at a level that is comprehensible by upper-level undergraduates. Such students have previously received fundamental training in organic chemistry basics, and are ideally positioned to learn about green chemistry principles, of which metrics is one foundational pillar. Following this, other green metrics in common use are discussed, along with applications that allow important calculations to be easily undertaken. Finally, an introduction to metrics in the context of life cycle analyses is presented. It should be noted that no other available publication

teaches green chemistry metrics in detail with an emphasis on educating undergraduates, whilst simultaneously providing a

| contemporary industrial flavour to the material. |  |
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