furan derivatives

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Efficient Synthesis of Spirolactones from Cyclic Anhydrides via an Allylation/Alkylation–RCM Sequence. — Ring closing metathesis reaction of various gem-diallyl or -dibutenyl lactones (III), (V), (VII) proceeds smoothly in the presence of Grubbs catalyst to furnish the title spirolactones (IV), (VI), and (VIII), resp., in moderate to good yields. Similarly, the dialkenyl derivative of himic anhydride (IX) provides the ring closing metathesis product in good yields, while products of ring opening metathesis polymerization are not observed. The starting dialkenyl compounds are obtained by allylation of the corresponding anhydride in the presence of $TiCl_4$ as demonstrated for derivative (III), or by reaction of the anhydride with butenylmagnesium reagent. — (MICHAUT, MATHIEU; SANTELLI, MAURICE; PARRAIN, JEAN-LUC; J. Organomet. Chem. 606 (2000) 1, 93-96; Lab. Synth. Org., CNRS, Fac. Sci. St. Jerome, Univ. Aix-Marseille III, F-13397 Marseille, Fr.; EN)