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**Barbara F Csima\***, Department of Pure Mathematics, Waterloo, Ontario N2L 3G1, Canada,  
and **Nancy A Day** and **Matthew Harrison-Trainor**. *Which Classes of Structures Are Both  
Pseudo-elementary and Definable by an Infinitary Sentence?*

When classes of structures are not first-order definable, we might still try to find a nice description. There are two common ways for doing this. One is to expand the language, leading to notions of pseudo-elementary classes, and the other is to allow infinite conjuncts and disjuncts. We examine the intersection. Namely, we address the question: Which classes of structures are both pseudo-elementary and  $\mathcal{L}_{\omega_1\omega}$ -elementary? We find that these are exactly the classes that can be defined by an infinitary formula that has no infinitary disjunctions. (Received September 23, 2018)