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Claus Ernst* (claus.ernst@wku.edu), Department of Mathematics, Western Kentucky University, 1906 College Heights Blvd., Bowling Green, KY 42101. *Generating all Minimal Diagrams of Alternating Knots.*

By the Tait Flyping Conjecture all all possible minimal diagrams of an alternating knot are related by a finite sequence of flypes. We use this fact to generate all possible minimal diagrams of an alternating knot. Starting with any given minimal diagram our algorithm performs flypes exhaustively until all possible diagrams have been produced. We display our results for all distinct alternating knot diagrams up to 16 crossings. We discuss knot families that have only a small number of distinct minimal diagrams and knot families that have a large number of minimal diagrams. (Received August 17, 2020)