In this work, we explored both the EA and SA on 56 symmetric instances from the benchmark set TSPLib (Reinelt 1991, 1995). The EA is unsuitable for this problem, but SA can find the optimum on many small and mid-sized instances. We then plug FFA into both algorithms and obtain the FEA and the FSA, respectively, which both exhibit very similar performance. **The FEA solves 27 of the instances in all of its runs, which SA can only achieve for 19 instances.** Plugging FFA into either the EA or SA thus substantially improved the number of runs in which the algorithms can find the optimum, however, both FFA-based variants suffer when the number of unique objective values is high.

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Both types of **hybridization** methods significantly improve the average result quality compared to both the objective-guided and FFA-based FEA variants. **The SAFEA$_A$ discovers the optimal solutions in more runs than any other algorithm setup in our study.** It also finds the optimum most often in most instances and delivers the best approximation quality on most instances, compared to the other algorithms.