

Title: Combinatorial Auctions with Public Goods

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Abstract: We consider a problem of finding efficient allocations in a market with complementary public and private goods. In some scenarios, the public good setup is preferred to the standard private good combinatorial auction. We also show that the efficient allocation can be implemented in a competitive equilibrium if and only if the problem of finding the efficient allocation is tractable. We conduct simulations to demonstrate that an integer linear program is computationally fast for the instances generated using standard benchmarks. Simulations also empirically confirm the gap in computation time between public good and private good formulations.