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Permutation groups with few orbits on the power set, II

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Abstract. We continue the study of permutation groups acting on the power set $\mathscr{P}(\{1, 2, \ldots, n\})$. Permutation groups must have a minimum of $n + 1$ set-orbits. Previously in [3], the authors of that paper used GAP to classify permutation groups with a low number of orbits for permutation groups having $n + r$ set-orbits for some given $2 \leq r \leq 15$. We develop improvements to their theory and algorithms in GAP to classify further cases, from $16 \leq r \leq 33$.

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