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Elliptic curves with prescribed torsion and good reduction outside a small set

We consider the problem of classifying elliptic curves over $\mathbb{Q}$ with prescribed torsion group and conductor of the form $p^a q^b$ where p and q are arbitrary primes. This can be achieved under certain technical conditions, using results from the theory of Galois representations and modular forms. This is joint work with Nike Vatsal and Soroosh Yazdani.