On the Iwasawa main conjecture for elliptic curves over Q at supersingular primes

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Abstract. Together with R. Greenberg and R. Pollack we have proved the following result: suppose $p > 2$ is a prime and E_1 and E_2 are two elliptic curves over Q with supersingular reduction at p. Then if $E_1[p]$ and $E_2[p]$ are isomorphic as Galois modules and if the μ invariants vanish and the Main Conjecture holds for one of the elliptic curves then the same is true for the other. Using this result together with recent results of Kurihara one can verify the Main Conjecture for a large class of elliptic curves supersingular at p.