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Richard A Litherland (lither@math.lsu.edu), Louisiana State University, and Steven D Wallace* (wallace@math.lsu.edu), Department of Mathematics, 301 Lockett Hall, Louisiana State University, Baton Rouge, LA 70803-4918. Surgery description of colored knots.

The pair (K, ρ) consisting of a knot $K \subset S^3$ and a surjective map ρ from the knot group onto a dihedral group is said to be a *p*-colored knot. In the paper Surgery untying of coloured knots D. Moskovich conjectures that for any odd prime *p* there are exactly *p* equivalence classes of *p*-colored knots up to surgery along unknots in the kernel of the coloring. In this paper, we show that there are at most 2*p* equivalence classes. This is vast improvement on the previous results by Moskovich for p = 3, and 5, with no upper bound given in general. In Dehn surgery equivalence relations on 3-manifolds, T. Cochran, A. Gerges, and K. Orr define invariants of the surgery equivalence class of a closed 3-manifold *M* in the context of bordism. By taking *M* to be 0-framed surgery of S^3 along *K* we may define Moskovich's colored untying invariant in the same way as the Cochran-Gerges-Orr invariants. This bordism definition of the colored untying invariant will be then used to establish the upper bound.

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