Non-loose negative torus knots

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The Legendrian invariant in knot Floer homology, defined by Lisca, Ozsváth, Stipsicz and Szabó, is torsion for knots in overtwisted structures, and it is non-zero only if the knot is strongly non-loose as a transverse knot. Using a correspondence between the knot invariants and invariants of contact surgeries, I will show that strongly non-loose transverse realizations of negative torus knots are classified by their invariants and that their U-torsion order equals one.