Collagenase cleavage-site obscured by C-telopeptide

1.
Telopeptidease removes non-helical C-telopeptide

2.
"Collagenase Interaction Domain" (CID)
α1:GAPGTPGPQGIAGQRGVVGLPGQRGERG
α2:AGPPGPPGPQGLLGAPGFLGLPGSRGER
exposed to exterior of fibril

3.
Collagenase recognizes CID:
Hemopexin Domain ->RGER
Catalytic Domain -> G/L or G/I

4.
Triple-Helix Unwound
(CID unwound / disassociated state stabilized)

5.
Cleavage at the G/L or G/I of each of the three chains sequentially

6.
Enzymatic / spontaneous removal of C-terminal part of molecule cleaved in step (5), uncovers CID in the D-period C-terminal to the prior proteolysis

N -> C collagenolysis

7.
After the N-C terminal cleavages have 'loosened' the matrix by making a prior pass of a neighboring microfibril, the alpha 1 peptide of CID becomes exposed, therefore possible

C -> N collagenolysis

may occur, although it is equally likely that N -> C collagenlysis would continue from these sites. Because the C-telopeptide is still intact and the alpha 2 chain is still obscured, this reaction pathway is likely to be significantly slower then that which follows directly from C-telopeptide cleavage or removal (1 or 6)