FIG. 1
Amino acid sequences of mature human secretoglobins

Protein	Amino acid sequence
SCGB1A1 (CC10)	SEQ ID NO 1: EICPSFQRVIETLLMDTPSSYEAAMELFSPDQDMREAGAQLKKLVDTLPQKPRESIIKLMEKIAQSSLCN
SCGB3A1	SEQ ID NO 2: AAFLVGSAKPVAQPVAALESAAEAGAGTLANPLGTLNPLKLLLSSLGIPVNHLIEGSQKCVAELGPQAVGAVKA LKALLGALTVFG
SCGB3A2	SEQ ID NO 3: AFLINKVPLPVDKLAPLPLDNILPFMDPLKLLLKTLGISVEHLVEGLRKCVNELGPEASEAVKKLLEALSHLV
SCGB2A1	SEQ ID NO 4: SGCKLLEDMVEKTINSDISIPEYKELLQEFIDSDAAAEAMGKFKQCFLNQSHRTLKNFGLMMHTVYDSIWCNMK SNMKLLMVLMLAALLLHCYAD
SCGB2A2	SEQ ID NO 5: SGCPLLENVISKTINPQVSKTEYKELLQEFIDDNATTNAIDELKECFLNQTDETLSNVEVFMQLIYDSSLCDLFMKLLMV LMLAALSQHCYAG
SCGB1D1	SEQ ID NO 6: VVCQALGSEITGFLLAGKPVFKFQLAKFKAPLEAVAAKMEVKKCVDTMAYEKRVLITKTLGKIAEKCDRMRLSVCLL LLTLALCCYRANA
SCGB1D2	SEQ ID NO 7: EFCPALVSELLDFFFISEPLFKLSLAKFDAPPEAVAAKLGVKRCTDQMSLQKRSLIAEVLVKIL KKCSVMKLSVCLLLVTLALCCYQANA
SCGB1D4	SEQ ID NO 8: LCCYQAHALVCPAVASEITVFLFLSDAAVNLQVAKLNPPPEALAAKLEVKHCTDQISFKKRLSLKKSWWK MRLSVCLLMVSLA

FIG. 2: HPLC analysis of NaOCl oxidation products

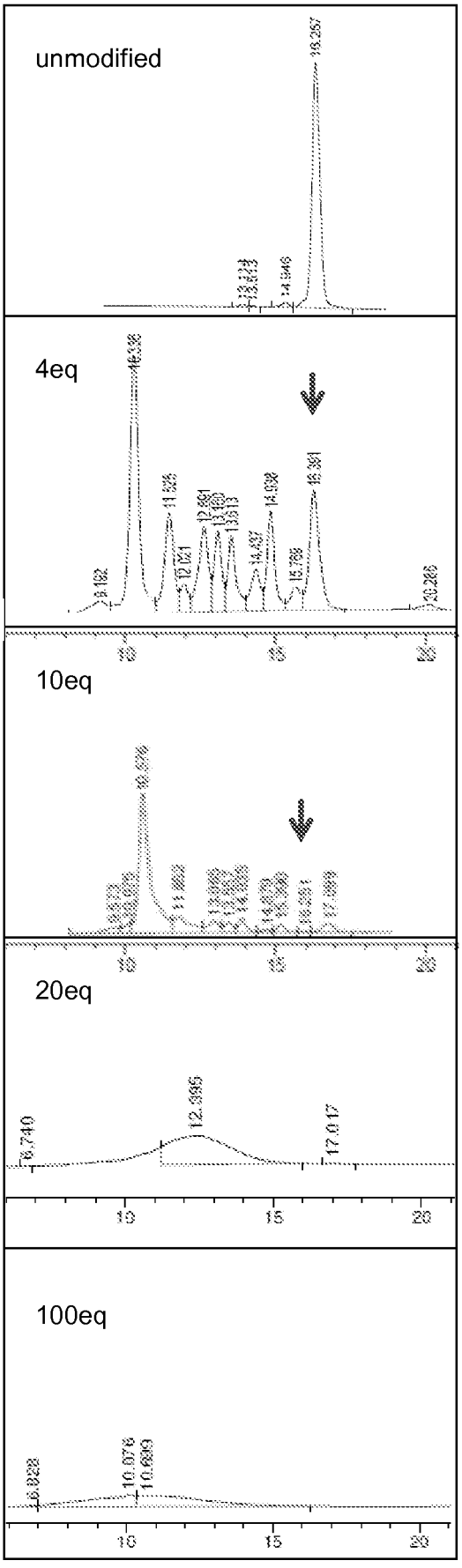
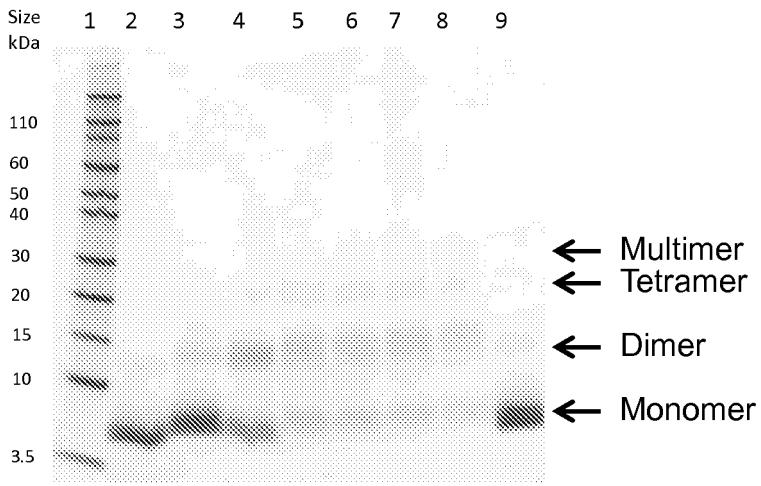


FIG. 3

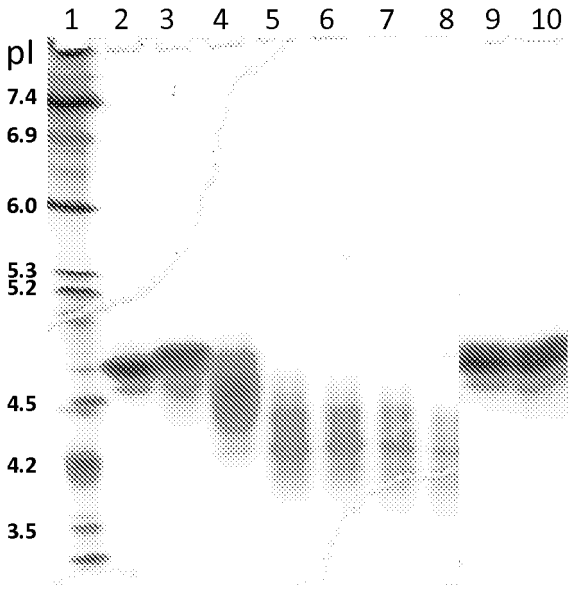
SDS-PAGE of rhCC10 NaOCl reactions



1. marker
2. rhCC10
3. 10 eq NaOCl
4. 20 eq
5. 40 eq
6. 60 eq
7. 80 eq
8. 100 eq
9. 5 eq

FIG. 4

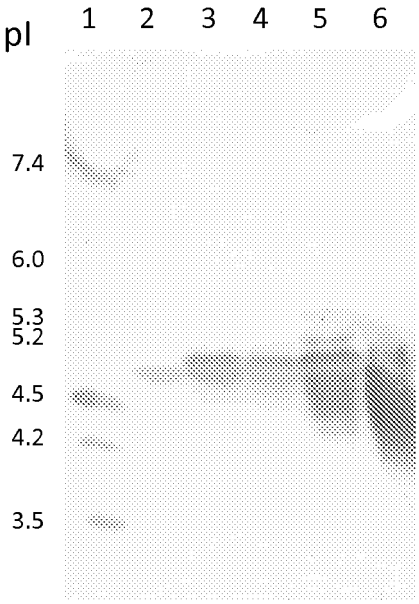
Isoelectric focusing of rhCC10 NaOCl reactions



1. IEF marker
2. rhCC10
3. 10 eq NaOCl
4. 20 eq
5. 40 eq
6. 60 eq
7. 80 eq
8. 100 eq
9. 2 eq
10. 5 eq

FIG. 5

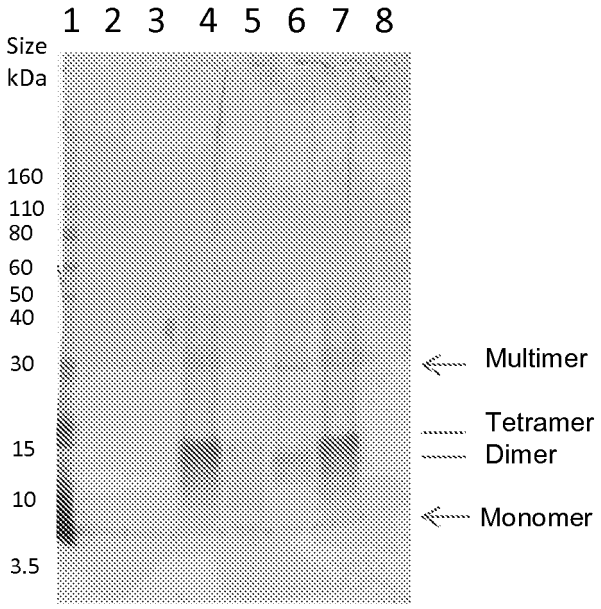
Western blot of IEF gel of rhCC10 NaOCl reactions using anti-rhCC10 antibody



1. Marker
2. rhCC10
3. 5 eq NaOCl in water (5.5 mg/mL)
4. 2 eq NaOCl in buffer(1.0 mg/mL)
5. 10 eq NaOCl in buffer(1.0 mg/mL)
6. 20 eq NaOCl in buffer(1.0 mg/mL)

FIG. 6

Western blot of DNPH-treated rhCC10 NaOCl reactions using anti-DNP antibody



		Amount loaded
1.	Marker	
2.	50 ng MPO+ 50 eq H_2O_2	10 mcg
3.	2 eq mCPBA in water (0.5 mg/mL)	10 mcg
4.	5 eq NaOCl in water (5.5 mg/mL)	10 mcg
5.	5 eq NaOCl in water (1.4 mg/mL)	5 mcg
6.	5 eq NaOCl in buffer (2.7 mg/mL)	5 mcg
7.	5 eq NaOCl in buffer (0.7 mg/mL)	5 mcg
8.	rhCC10	5 mcg

FIG. 7: HPLC analysis of mCPBA oxidation products

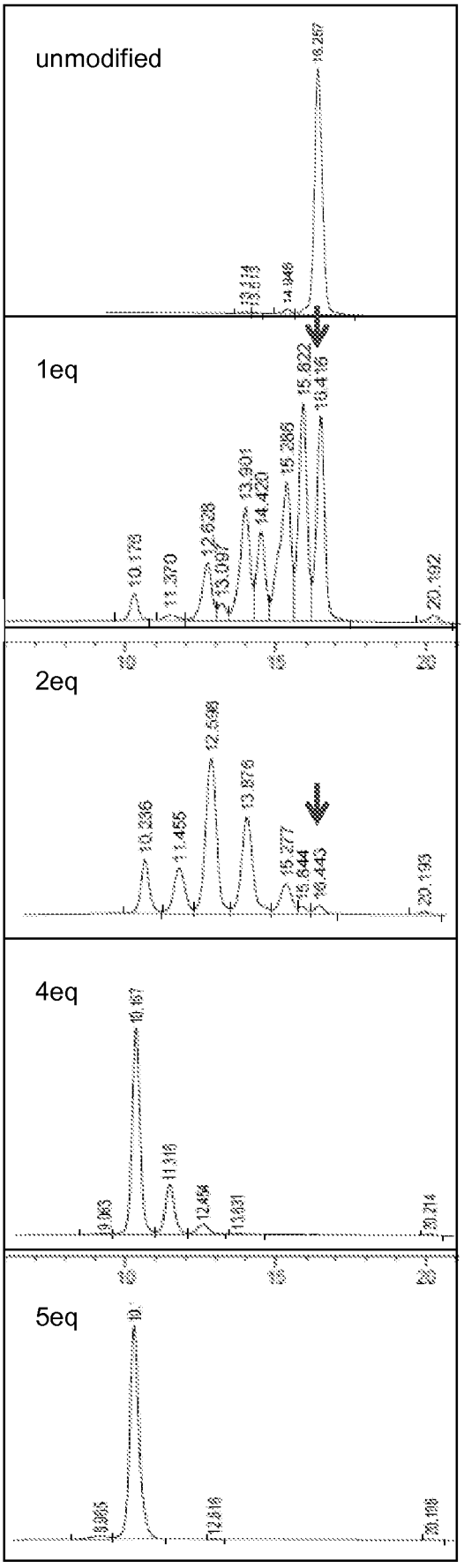
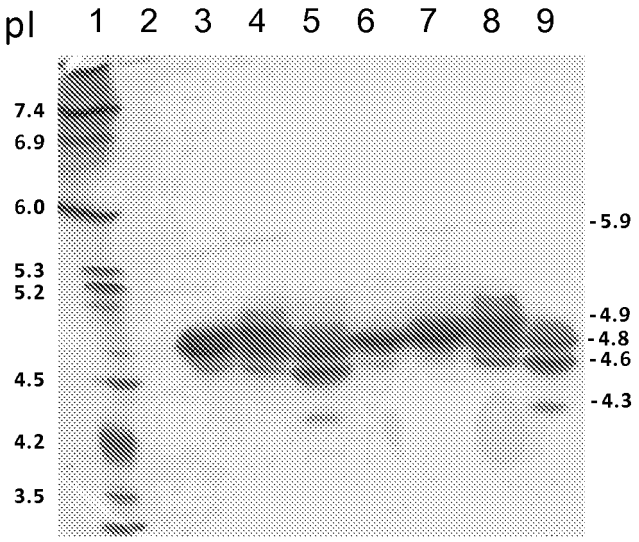


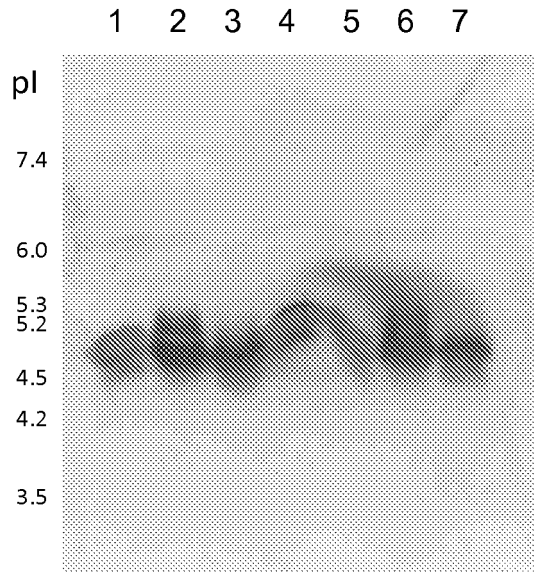
FIG. 8: Isoelectric focusing of rhCC10 mCPBA reactions



1. Marker
2. blank
3. 2 eq mCPBA; 4°C
4. 5 eq mCPBA; 4°C
5. 10 eq mCPBA; 4°C
6. rhCC10
7. 2 eq mCPBA; 21°C
8. 5 eq mCPBA; 21°C
9. 10 eq mCPBA; 21°C

FIG. 9

Western blot of IEF gel of rhCC10 mCPBA reactions using anti-rhCC10 antibody

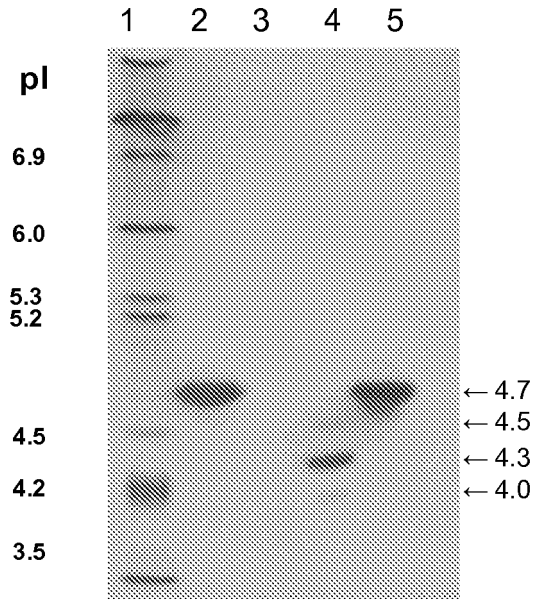


1. 2 eq mCPBA; 4°C
2. 5 eq mCPBA; 4°C
3. 10 eq mCPBA; 4°C
4. rhCC10
5. 2 eq mCPBA; 21°C
6. 5 eq mCPBA; 21°C
7. 10 eq mCPBA; 21°C

FIG. 10

Isoelectric focusing of rhCC10 mCPBA reactions;

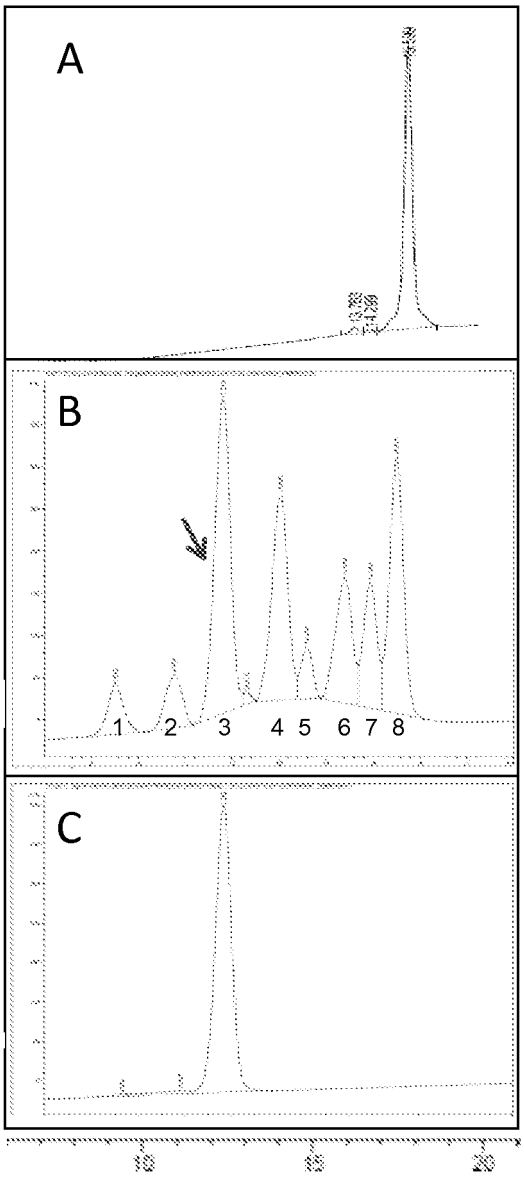
additional conditions



1. IEF Marker
2. 2 eq mCPBA, with $CaCl_2$, 15 min
3. 100 eq mCPBA, 9 days
4. 100 eq mCPBA, 15 min
5. rhCC10

FIG. 11

Purification & mass spectral analysis of mCPBA reaction products: CC10 isoforms



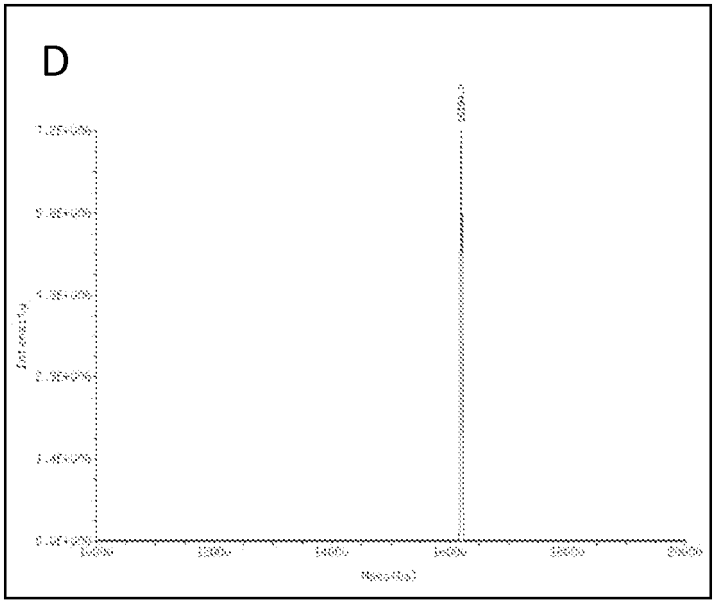


FIG. 12: Optimization of MPO-H_2O_2 reaction;
Effect of $CaCl_2$

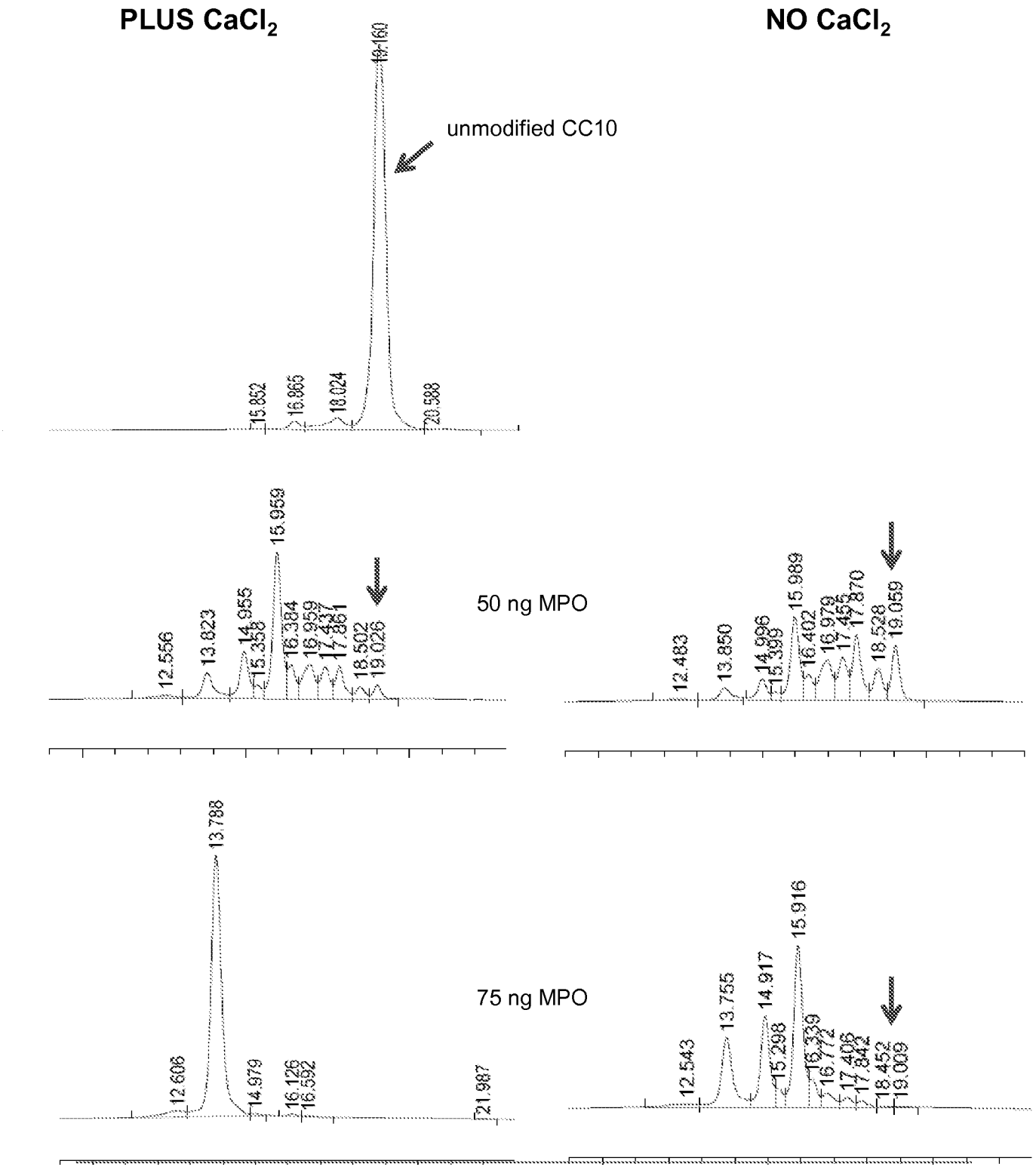


FIG. 13: HPLC analysis of MPO-H_2O_2 oxidation products

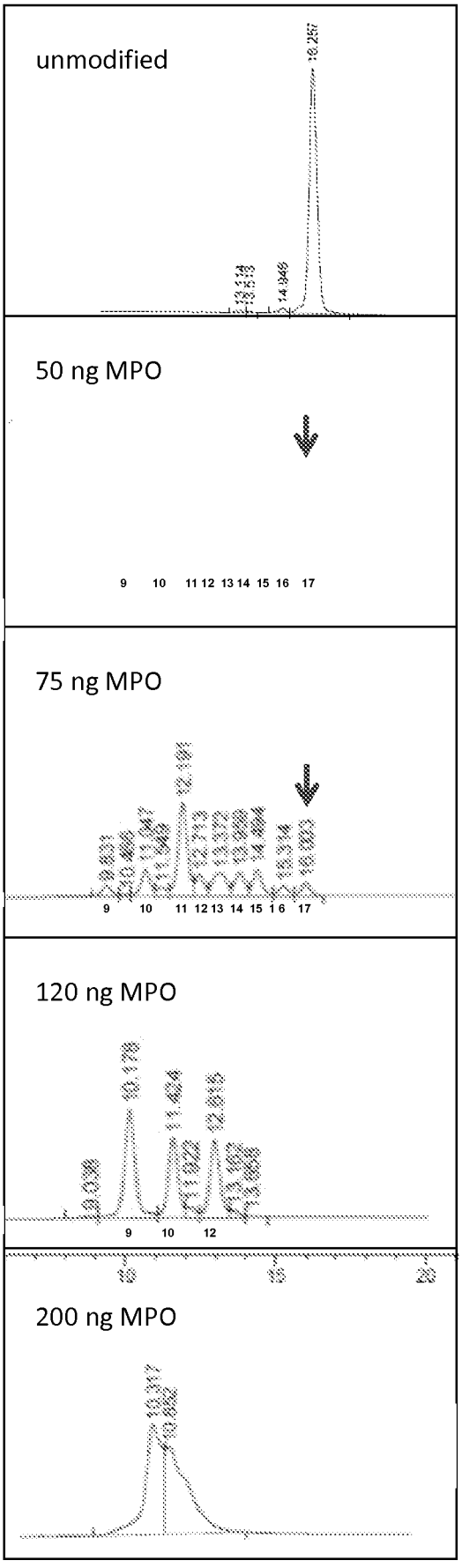
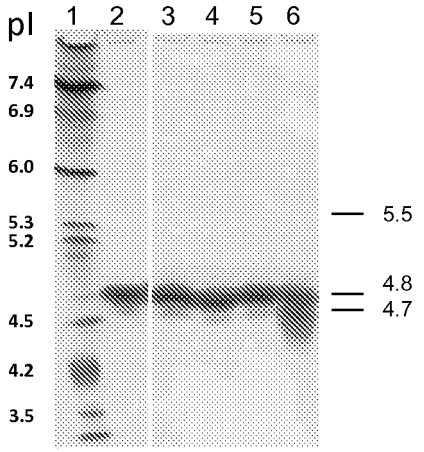


FIG. 14

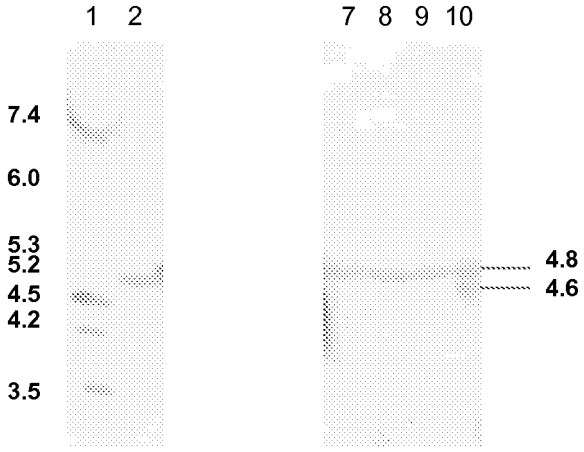
Isoelectric focusing analysis of MPO + H_2O_2 CC10 reactions



1. IEF Marker
2. rhCC10
3. 300ng MPO+50 eq H_2O_2; 1 hr
4. 600ng MPO+50 eq H_2O_2; 1 hr
5. 1000ng MPO+50 eq H_2O_2; 1 hr
6. 300ng MPO+50 eq $H_{2;}O_{2;}$; 24hr

FIG. 15

Western blot of IEF gels of rhCC10 MPO and H_2O_2 reactions using anti-rhCC10



1. IEF Marker
2. rhCC10
3. 300ng MPO+50 eq H_2O_2; 1 hr
4. 600ng MPO+50 eq H_2O_2; 1 hr
5. 1000ng MPO+50 eq H_2O_2; 1 hr
6. 300ng MPO+50 eq H_2O_2; 24hr

FIG. 16

Purification and mass spectral analysis of a CC10 isoform from a MPO-H_2O_2 reaction

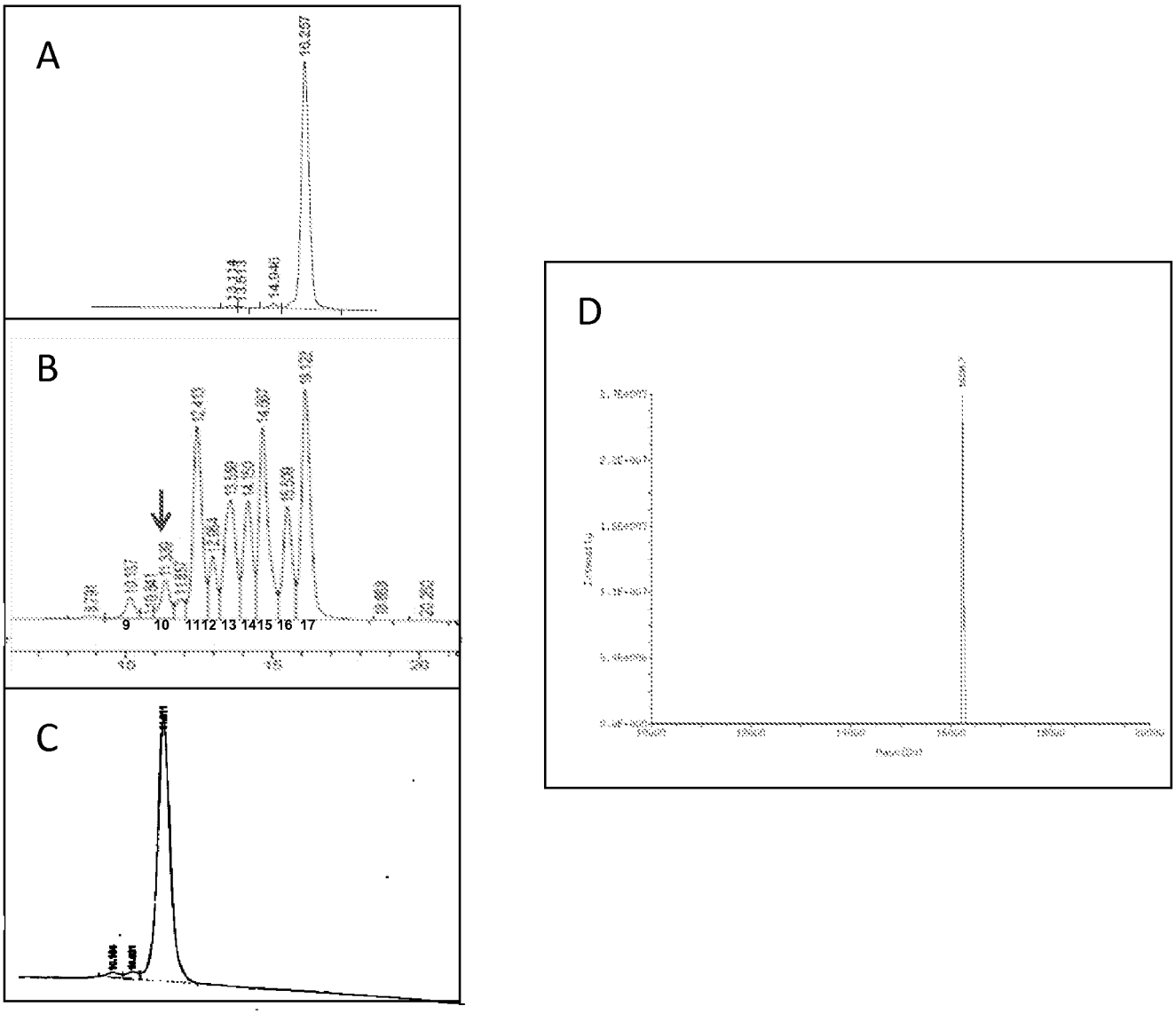


FIG. 17: HPLC analysis of peroxynitrite oxidation products

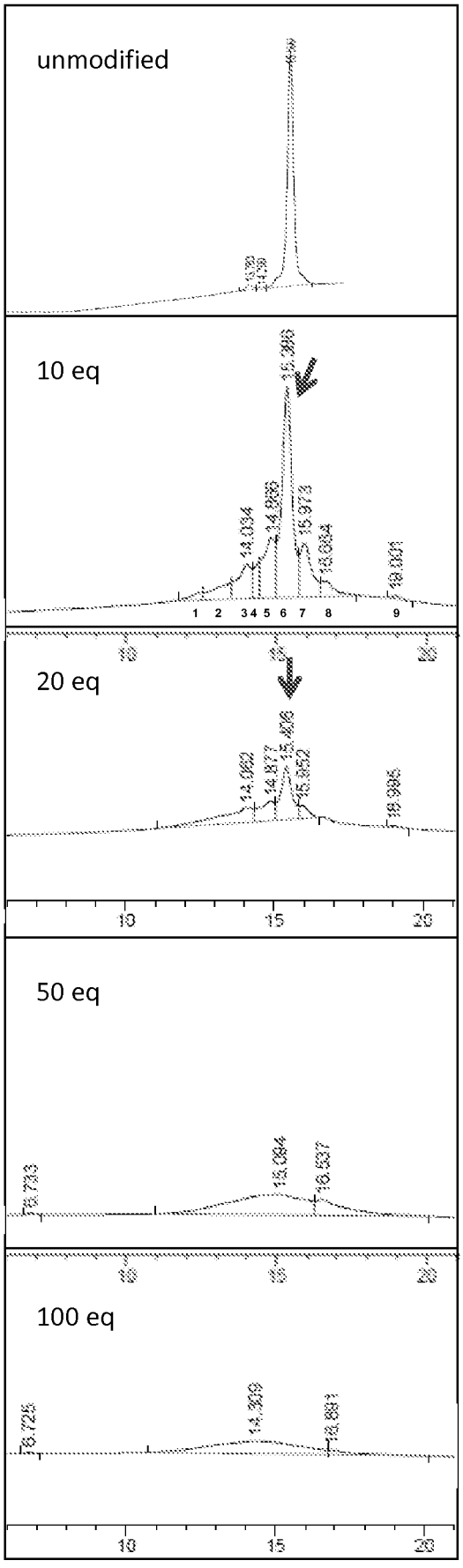


FIG. 18: Effects of pH and $CaCl_2$ on peroxynitrite-mediated oxidation of rhCC10

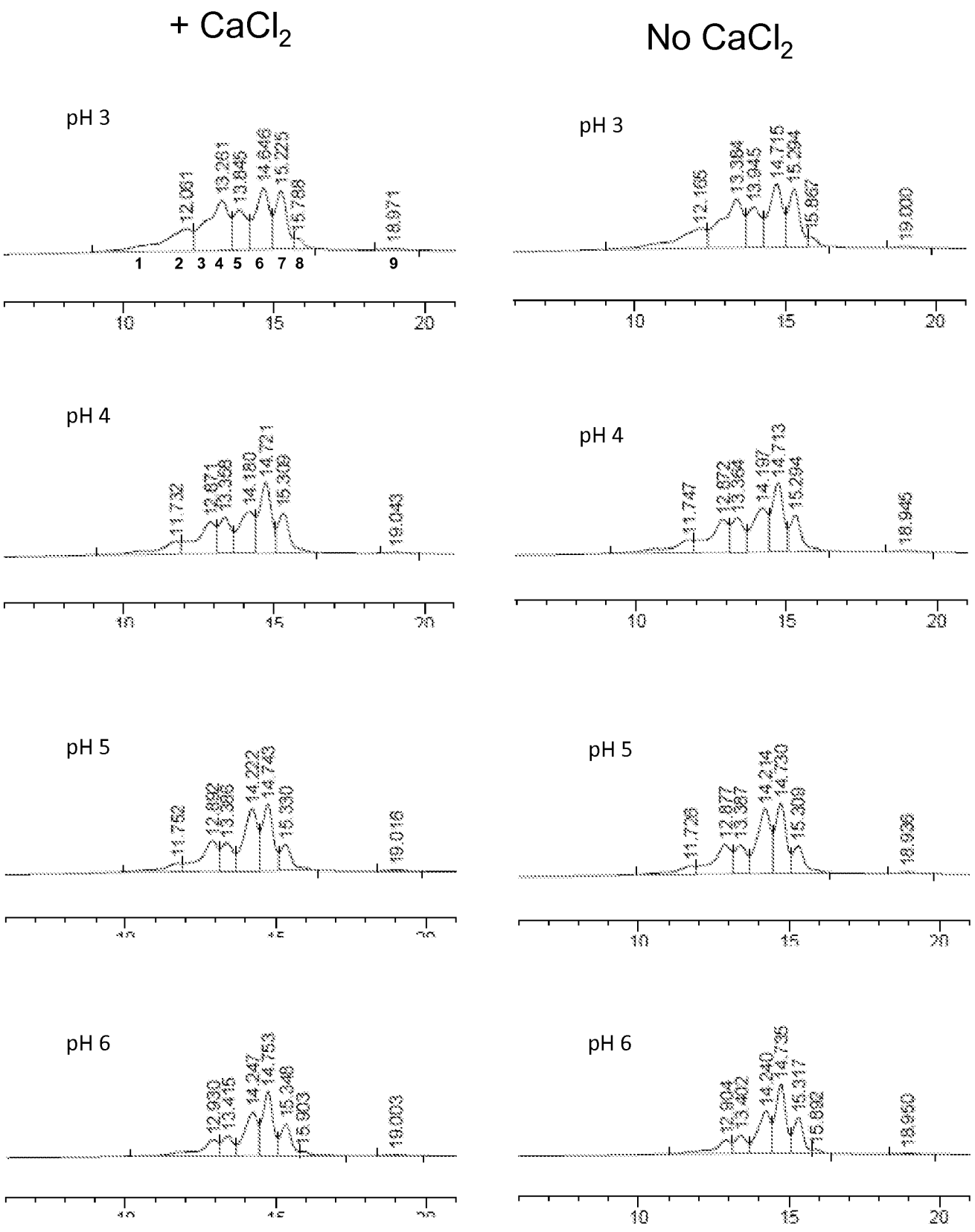
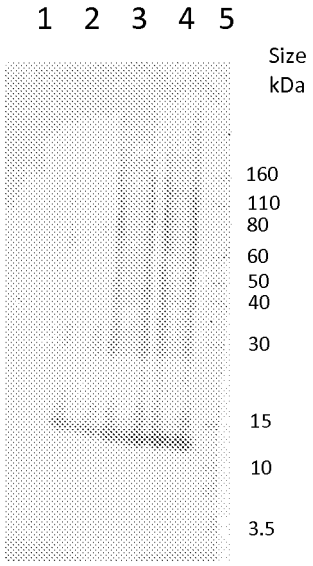


FIG. 19

Western blot analysis of peroxynitrite reaction products



1. rhCC10
2. 10 eq
3. 50 eq
4. 100 eq
5. Marker

10 mcg protein per lane

FIG. 20

Secretoglobin reaction products of ROS and RNS detected with rhCC10 protein

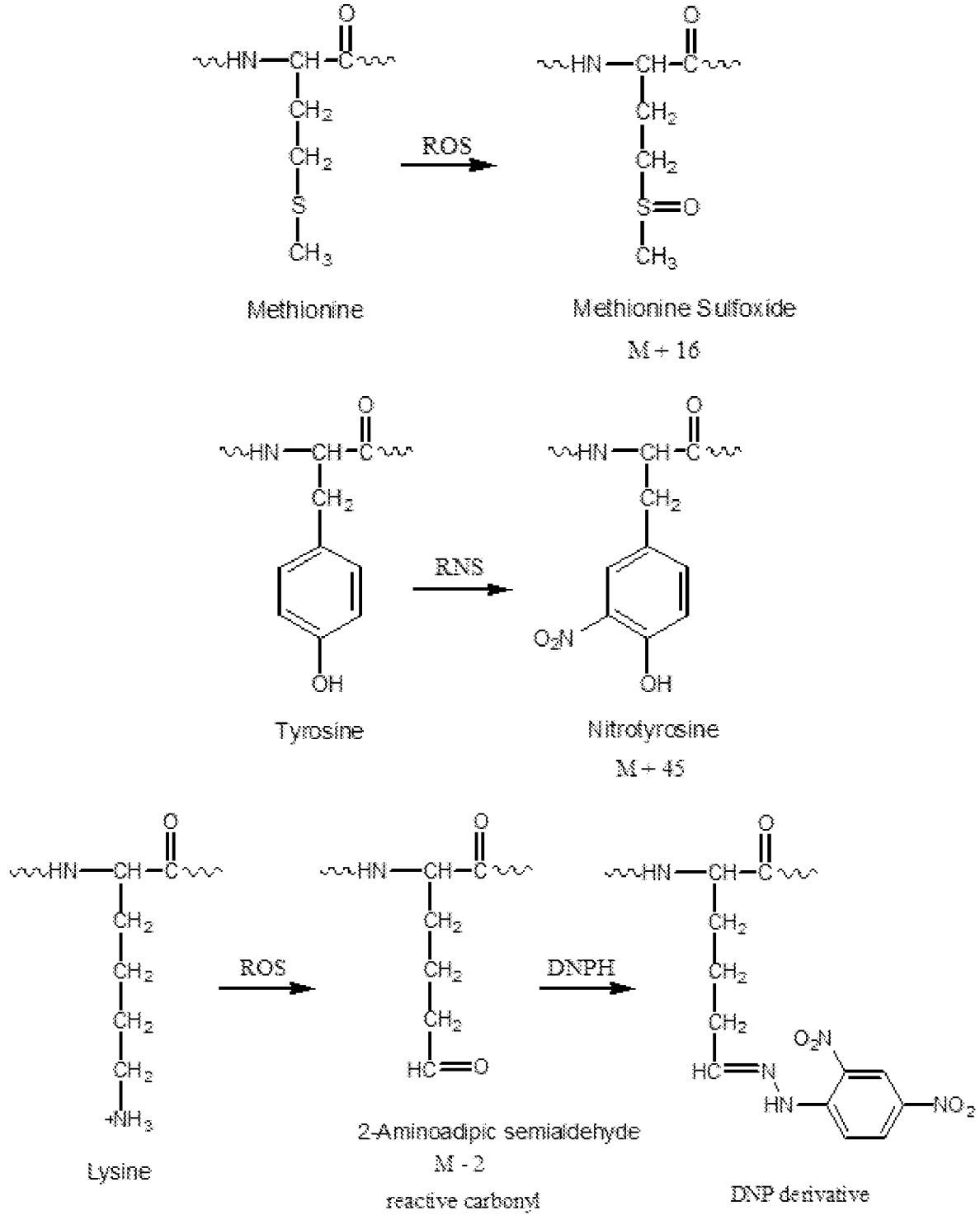
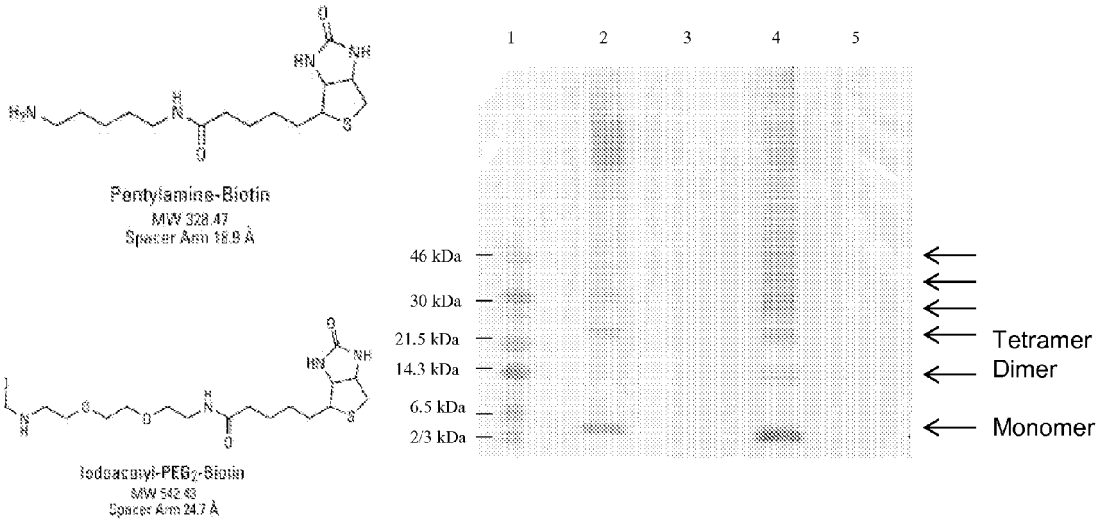


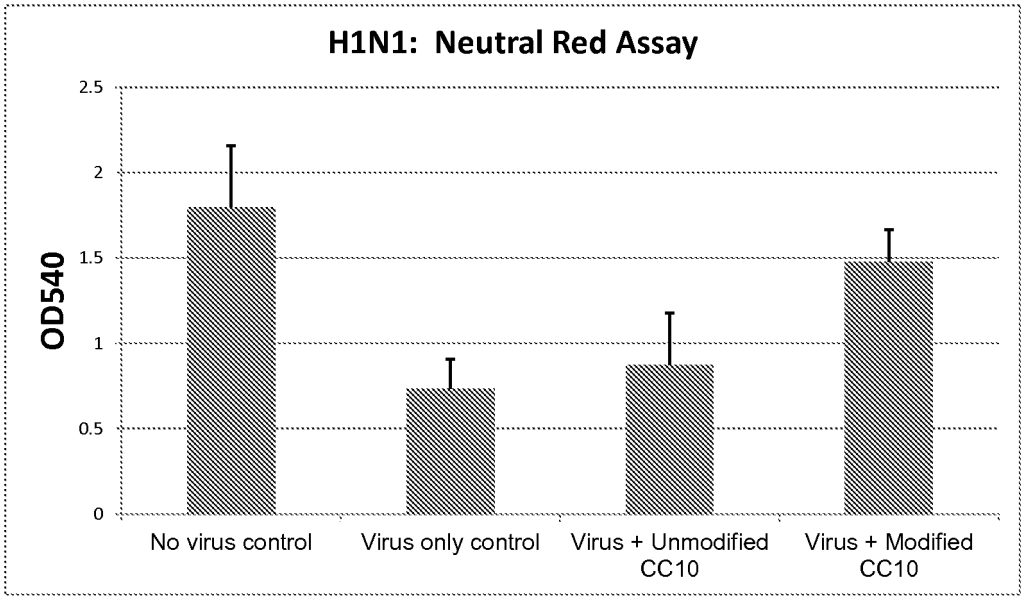
FIG. 21
Modification of rhCC10 by tissue transglutaminase



1. Molecular weight markers
2. rhCC10 + TG2 + 2 mM $CaCl_2$ + 5-(Biotinamido)pentylamine
3. rhCC10 + TG2 + 50 mM EDTA + 5-(Biotinamido)pentylamine
4. rhCC10 + TG2 + 2 mM $CaCl_2$ + (+)-Biotinyl-3,6-dioxaoctanediamine
5. rhCC10 + TG2 + 50 mM EDTA + (+)-Biotinyl-3,6-dioxaoctanediamine

FIG. 22

Enhanced anti-viral activity of modified CC10



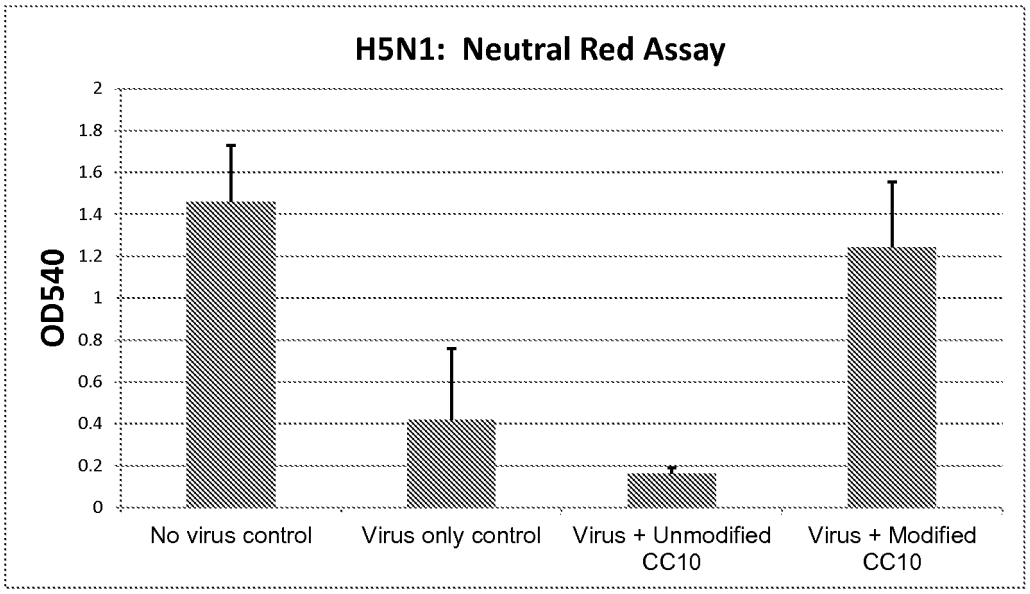


FIG. 23

Enhanced inhibition of neutrophil chemotaxis by modified CC10 ROS & RNS products

