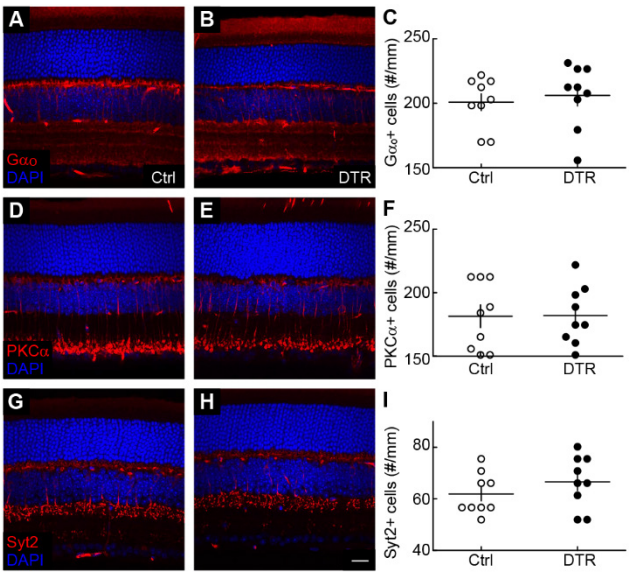

Figure S1. Stable bipolar cell numbers after cone degeneration. Related to Figure 1.

(A, B, D, E, G, H) Representative images of vertical slices from control (A, D, G) and *Cone-DTR* (B, E, H) retinas 30 days after DT injection at P10 stained for Gαo (A, B), PKCα (D, E) and Syt2 (G, H) (red) and DAPI (blue). Scale bar = 20 μm.

(C, F, I) Summary data for Gαo+ ON-bipolar cells number (C, control, open, 200.89 ± 6.49 mm^{-1}, 9 slices from 3 mice, *Cone-DTR*, filled, 206.13 ± 8.18 mm^{-1}, 9 slices from 3 mice, p = 0.424 by Mann–Whitney *U* test), PKCα+ rod bipolar cells number (F, control, open, 180.32 ± 8.91 mm^{-1}, 9 slices from 3 mice, *Cone-DTR*, filled, 180.80 ± 7.59 mm^{-1}, 9 slices from 3 mice, p = 0.894 by Mann–Whitney *U* test), and Syt2+ type 2 bipolar cells number (I, control, open, 61.89 ± 2.66 mm^{-1}, 9 slices from 3 mice, *Cone-DTR*, filled, 66.61 ± 3.38 mm^{-1}, 9 slices from 3 mice, p = 0.324 by Mann–Whitney *U* test).

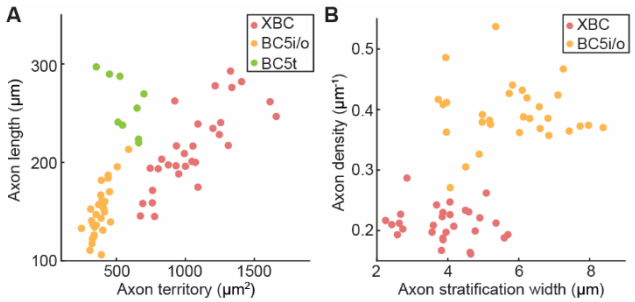

Figure S2. Morphologic distinction of BC5t, BC5i/o, and XBC. Related to Figure 2.

(A) Scatter plots of BC5t, BC5i/o, and XBC axon length vs. territories. Because BC5t axons are bistratified, the sum of their branch lengths (i.e., axon length) is greater than that of BC5i/o cells.

(B) Scatter plots of BC5i/o and XBC axon density (i.e., length / territory) vs. axon stratification width.

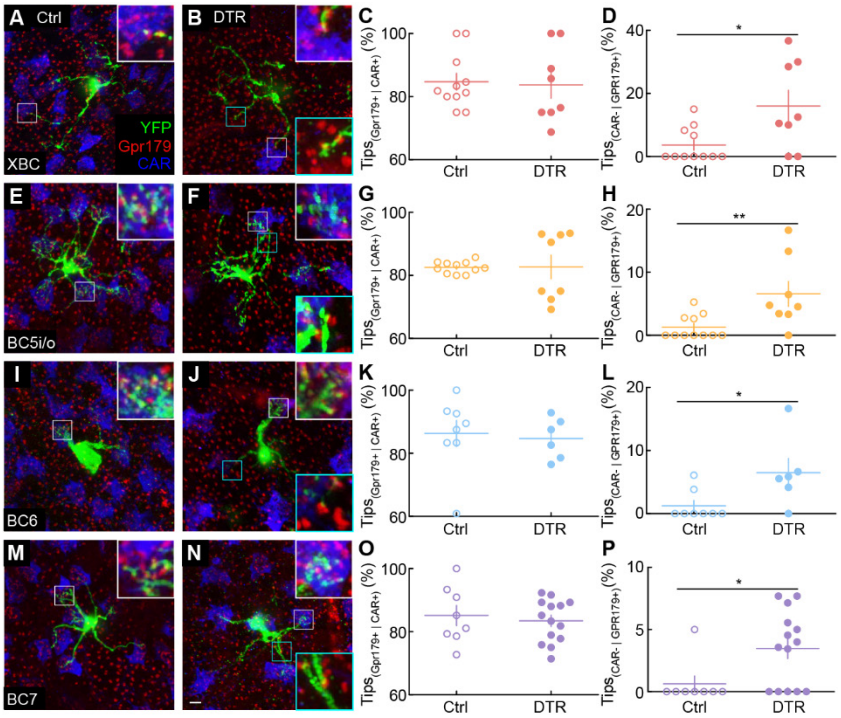

Figure S3. Synaptic differentiation and rewiring of bipolar cell dendrites after cone degeneration in young retinas. Related to Figure 3.

(A, B, E, F, I, J, M, N) Representative super-resolution images of maximum intensity projections for dendrites (green) of XBC (A, B), BC5i/o (E, F), BC6 (I, J), and BC7 (M, N) in control (A, E, I, M) and *Cone-DTR* (B, F, J, N) retinas 30 days after DT injection at P10 stained for Gpr179 (red) and cone arrestin (CAR, blue). Scale bar = 5 µm. Insets show higher magnification views of colocalization between dendrite tips and Gpr179 within (white boxes) and outside of (cyan boxes) cone pedicles.

(C, D) Summary data for synaptic differentiation (percentage of dendritic tips colocalized with Gpr179 in cone pedicles, C, control, 84.72% ± 2.63%, *Cone-DTR*, 83.73% ± 4.20%, p = 0.78 by Mann–Whitney U test) and putative rod inputs (percentage of dendritic tips colocalized with Gpr179 outside of cone pedicles, D, control, 3.64% ± 1.63%, *Cone-DTR*, 16.02% ± 4.95%, p = 0.026 by Mann–Whitney U test) in control (open, n = 11 cells from 3 mice) and *Cone-DTR* (filled, n = 8 cells from 3 mice) XBCs.

(G, H) Summary data for synaptic differentiation (G, control, 82.54% ± 0.56%, *Cone-DTR*, 85.68% ± 3.76%, p = 0.97 by Mann–Whitney U test) and putative rod inputs (H, control, 1.28% ± 0.57%, *Cone-DTR*, 6.57% ± 1.98%, p = 0.008 by Mann–Whitney U test) in control (open, n = 11 cells from 3 mice) and *Cone-DTR* (filled, n = 8 cells from 3 mice) BC5i/o cells.

(K, L) Summary data for synaptic differentiation (K, control, 86.30% ± 4.12%, *Cone-DTR*, 84.67% ± 2.66%, p = 0.40 by Mann–Whitney U test) and putative rod inputs (L, control, 1.24% ± 0.84%, *Cone-DTR*, 6.49% ± 2.25%, p = 0.02 by Mann–Whitney U test) in control (open, n = 8 cells from 3 mice) and *Cone-DTR* (filled, n = 6 cells from 3 mice) BC6 cells.

(O, P) Summary data for synaptic differentiation (O, control, 85.14% ± 3.19%, Cone-DTR, 83.44% ± 1.80%, p = 0.66 by Mann–Whitney U test) and putative rod inputs (P, control, 0.63% ± 0.63%, *Cone-DTR*, 3.47% ± 0.80%, p = 0.031 by Mann–Whitney U test) in control (open, n = 14 cells from 3 mice) and *Cone-DTR* (filled, n = 8 cells from 3 mice) BC7 cells. Throughout this figure, * indicates $p < 0.05$ and ** indicates $p < 0.01$.

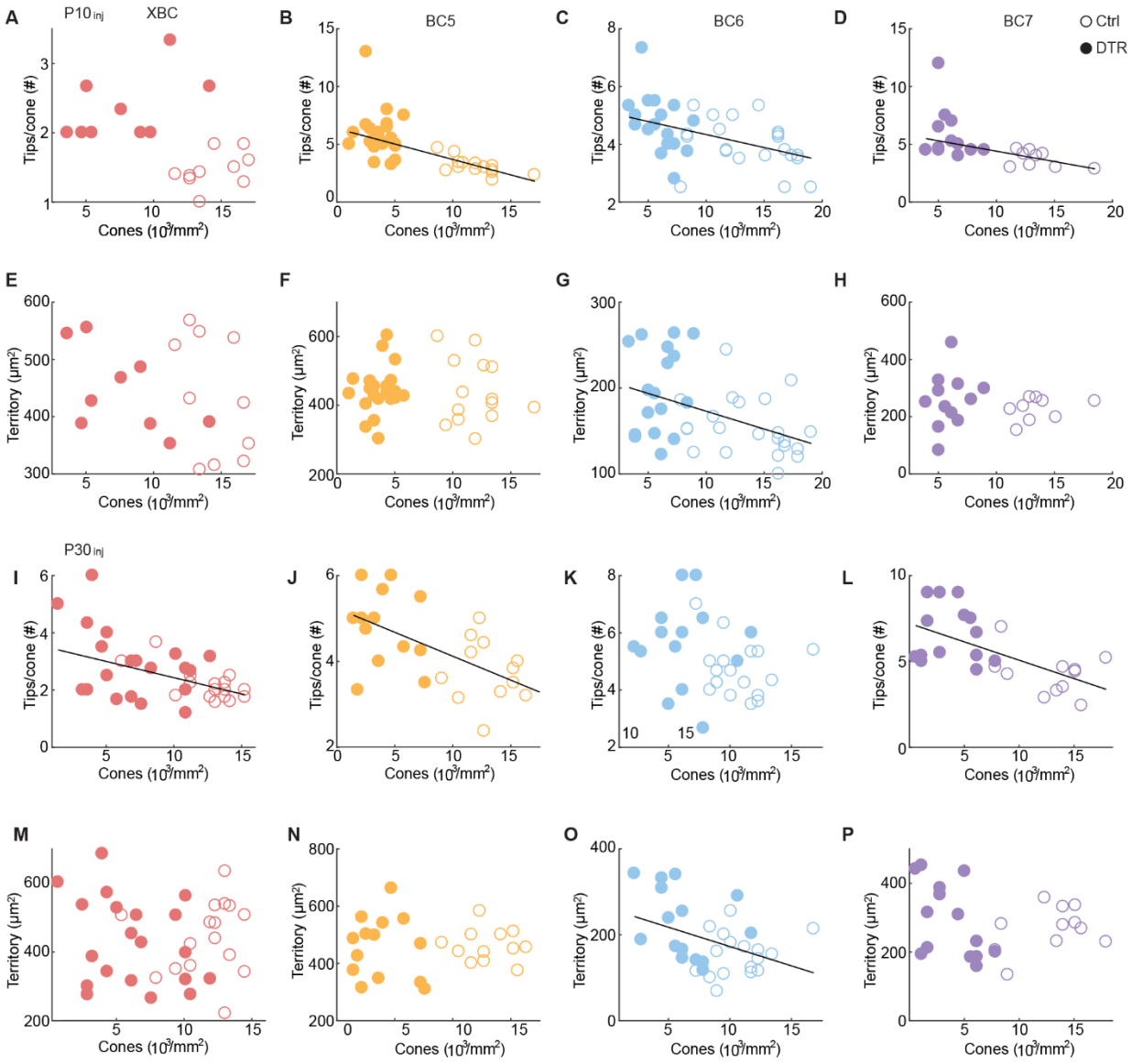

Figure S4. Homeostatic rewiring varies gradually with cone loss. Related to Figure 3.

(A, B) Scatter plots of the numbers of tips per cone vs. cone density nearby (i.e., within a 2,754 µm^2 square center on the imaged bipolar cell) for XBC (A, control, n = 10 cells from 3 mice, open, *Cone-DTR*, n = 9 cells from 3 mice, filled, r = -0.415, p = 0.078) and BC5i/o (B, control, n = 14 cells from 3 mice, open, *Cone-DTR*, n = 21 cells from 4 mice, filled, r = -0.668, p = 1.14 x 10^{-5}) at 30 days after DT injection at P10. (C, D) Scatter plots of the numbers of tips per cone vs. cone density nearby (i.e., within a 1,784 µm^2 square center on the imaged bipolar cell) for BC6 (C, control, n = 22 cells from 5 mice, open, *Cone-DTR*, n = 17 cells from 5 mice, filled, r = -0.492, p = 1.5 x 10^{-4}) and BC7 (D, control, n = 9 cells from 3 mice, open, *Cone-DTR*, n = 12 cells from 3 mice, filled, r = -0.575, p = 6.4 x 10^{-4}) at 30 days after DT injection at P10. (E, F) Scatter plots of the dendrite territory vs. cone density nearby (i.e., within a 2,754 µm^2 square center on the imaged bipolar cell) for XBC (E, same cells as in A, r = -0.345, p = 0.148) and BC5i/o (F, same cells as in B, r = -0.035, p = 0.841) at 30 days after DT injection at P10.

(G, H) Scatter plots of the dendrite territory vs. cone density nearby i.e., within a 1,784 μm^2 square center on the imaged bipolar cell) for BC6 (G, same cells as in C, r = -0.434, p = 0.0058) and BC7 (H, same cells as in D, r = -0.092, p = 0.691) at 30 days after DT injection at P10.
(I-L) Analogous to (A-D) but for 30 days after DT injection at P30 for XBC (I, control, n = 16 cells from 4 mice, open, *Cone-DTR*, n = 20 cells from 4 mice, filled, r = -0.556, p = 4×10^{-4}), BC5i/o (J, control, n = 13 cells from 3 mice, open, *Cone-DTR*, n = 15 cells from 3 mice, filled, r = -0.610, p = 7×10^{-4}), BC6 (K, control, n = 17 cells from 4 mice, open, *Cone-DTR*, n = 15 cells from 4 mice, filled, r = -0.295, p = 0.101), and BC7 (L, control, n = 11 cells from 3 mice, open, *Cone-DTR*, n = 14 cells from 4 mice, filled, r = -0.621, p = 9×10^{-4}).
(M-P) Analogous to (E-H) but for30 days after DT injection at P30 for XBC (M, same cells as in I, r = -0.073, p = 0.671), BC5i/o (N, same cells as in J, r = -0.114, p = 0.571), BC6 (O, same cells as in K, r = -0.41, p = 0.019), and BC7 (P, same cells as in L, r = -0.198, p = 0.344). Throughout this figure, significant correlations are marked with solid lines.

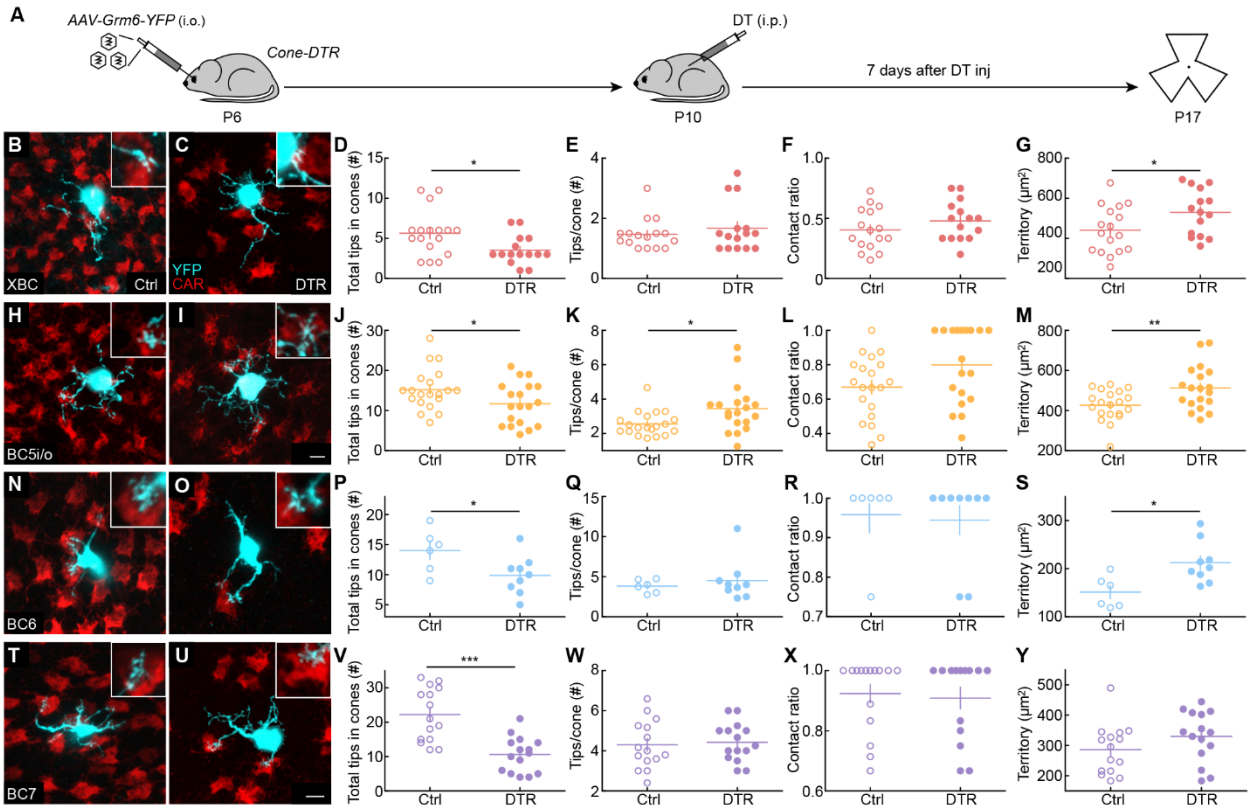

Figure S5. Short-term dendritic remodeling after cone degeneration. Related to Figure 3.

(A) Timeline of the experiment. Mice were intravitreally injected with *AAV-Grm6-YFP* at P6 to label ON bipolar cells and intraperitoneally injected with DT once at P10 to ablate cones. Seven days after DT injection (P17), retinas were dissected for analysis.

(B, C, H, I, N, O, T, U) Representative images of maximum intensity projections for dendrites (cyan) of XBC (B, C), BC5i/o (H, I), BC6 (N, O), and BC7 (T, U) cells in control (B, H, N, T) and *Cone-DTR* (C, I, O, U) retinas 7 days after DT injection at P10 with cone arrestin (CAR, red) staining. Scale bar = 5 μm. Insets show higher magnification views of overlaps between dendritic tips and cones pedicles.

(D-G) Summary data for total numbers of tips in cones (D, control, 5.65 ± 0.69, *Cone-DTR*, 3.53 ± 0.47, p = 0.019 by Mann–Whitney U test), numbers of tips per cone (E, control, 1.78 ± 0.27; *Cone-DTR*, 1.67 ± 0.21, p = 0.76 by Mann–Whitney U test), contact ratios (F, control, 0.40 ± 0.04, *Cone-DTR*, 0.48 ± 0.04, p = 0.22 by Mann–Whitney U test), and dendritic territories, control (G, 441.47 ± 28.27 μm^2, *Cone-DTR*, 529.99 ± 29.39 μm^2, p = 0.035 by Mann–Whitney U test) in control (open, n = 16 cells from 4 mice) and *Cone-DTR* (filled, n = 15 cells from 4 mice) XBCs.

(J-M) Summary data for total numbers of tips in cones (J, control, 15.20 ± 1.14, *Cone-DTR*, 11.68 ± 1.21, p = 0.041 Mann–Whitney U test), numbers of tips per cone (K, control, 2.55 ± 0.16, *Cone-DTR*, 3.45 ± 0.32, p = 0.012 Mann–Whitney U test), contact ratios (L, control, 0.67 ± 0.04, *Cone-DTR*, 0.80 ± 0.05, p = 0.055 by Mann–Whitney U test), and dendritic territories (M, control, 426.64 ± 17.14 μm^2, *Cone-DTR*, 512.10 ± 24.99 μm^2, p = 0.007 by Mann–Whitney U test) in control (open, n = 20 cells from 4 mice) and *Cone-DTR* (filled, n = 19 cells from 3 mice) BC5i/o cells.

(P-S) Summary data for total number of tips in cones (P, control, 14.00 ± 1.46, *Cone-DTR*, 9.89 ± 1.06, p = 0.036 by Mann–Whitney U test), numbers of tips per cone (Q, control, 3.82 ± 0.34, *Cone-DTR*, 4.52 ± 0.87, p = 0.54 by Mann–Whitney U test), contact ratios (R, control, 0.96 ± 0.04, *Cone-DTR*, 0.94 ± 0.04, p

= 0.81 by Mann–Whitney U test), and dendritic territories (S, control, 151.29 ± 13.40 μm^2, *Cone-DTR*, 212.59 ± 14.41 μm^2, p = 0.011 by Mann–Whitney U test) in control (open, n = 6 cells from 5 mice) and *Cone-DTR* (filled, n = 9 cells from 3 mice) BC6 cells.
(V-Y) Summary data for total number of tips in cones (V, control, 22.20 ± 2.00, *Cone-DTR*, 10.60 ± 1.33, p = 2.2 x 10^{-4} by Mann–Whitney U test), numbers of tips per cone (W, control, 4.30 ± 0.31, *Cone-DTR*, 4.42 ± 0.25, p = 0.76 by Mann–Whitney U test), contact ratios (X, control, 0.92 ± 0.03, *Cone-DTR*, 0.87 ± 0.05, p = 0.38 by Mann–Whitney U test), and dendritic territories (Y, control, 286.28 ± 21.25 μm^2, *Cone-DTR*, 329.85 ± 21.52 μm^2, p = 0.16 by Mann–Whitney U test) in control (open, n = 15 cells from 7 mice) and *Cone-DTR* (filled, n = 15 cells from 8 mice) BC7 cells. Throughout this figure, * indicates p < 0.05, ** indicates p < 0.01, and *** indicates p < 0.001.

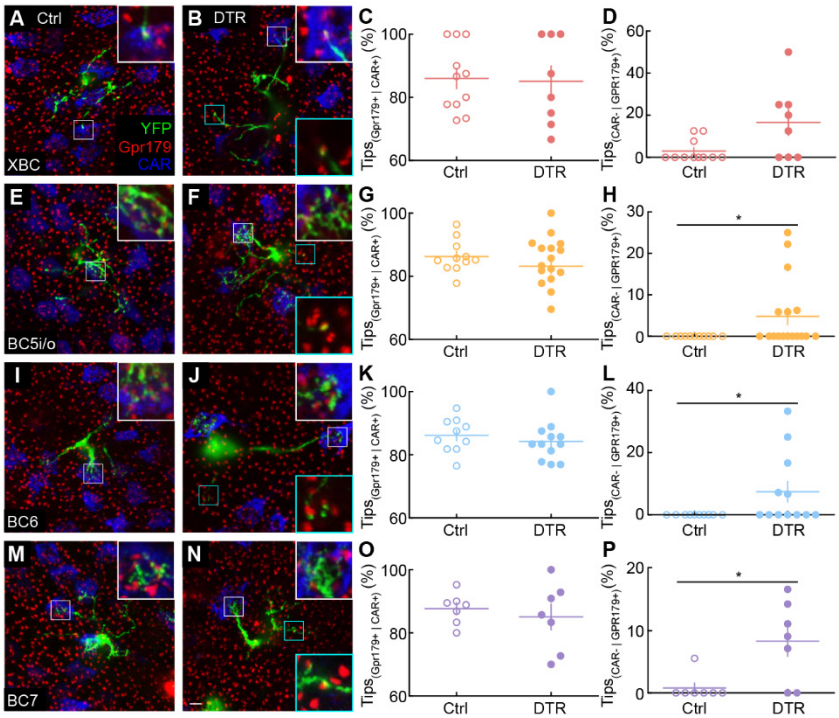

Figure S6. Synaptic differentiation and rewiring of bipolar cell dendrites after cone degeneration in mature retinas. Related to Figure 4.

(A, B, E, F, I, J, M, N) Representative super-resolution images of maximum intensity projections for dendrites (green) of XBC (A, B), BC5i/o (E, F), BC6 (I, J), and BC7 (M, N) in control (A, E, I, M) and *Cone-DTR* (B, F, J, N) retinas 30 days after DT injection at P10 stained for Gpr179 (red) and cone arrestin (CAR, blue). Scale bar = 5 µm. Insets show higher magnification views of colocalization between dendrite tips and Gpr179 within (white boxes) and outside of (cyan boxes) cone pedicles.

(C, D) Summary data for synaptic differentiation (percentage of dendritic tips colocalized with Gpr179 in cone pedicles, C, control, 85.98% ± 3.18%, *Cone-DTR*, 85.07% ± 4.87%, p = 0.85 by Mann–Whitney U test) and putative rod inputs (percentage of dendritic tips colocalized with Gpr179 outside of cone pedicles, D, control, 2.97% ± 1.58%, *Cone-DTR*, 17.37% ± 6.14%, p = 0.050 by Mann–Whitney U test) in control (open, n = 11 cells from 3 mice) and *Cone-DTR* (filled, n = 8 cells from 3 mice) XBCs.

(G, H) Summary data for synaptic differentiation (G, control, 86.26% ± 1.55%, *Cone-DTR*, 83.69% ± 2.39%, p = 0.45 by Mann–Whitney U test) and putative rod inputs (H, control, 0.00% ± 0.00%, *Cone-DTR*, 5.43% ± 2.02%, p = 0.033 by Mann–Whitney U test) in control (open, n = 11 cells from 3 mice) and *Cone-DTR* (filled, n = 17 cells from 3 mice) BC5i/o cells.

(K, L) Summary data for synaptic differentiation (K, control, 86.14% ± 1.71%, *Cone-DTR*, 84.22% ± 1.84%, p = 0.34 by Mann–Whitney U test) and putative rod inputs (L, control, 0.00% ± 0.00%, *Cone-DTR*, 7.40% ± 3.32%, p = 0.028 by Mann–Whitney U test) in control (open, n = 9 cells from 3 mice) and *Cone-DTR* (filled, n = 12 cells from 3 mice) BC6 cells.

(O, P) Summary data for synaptic differentiation (O, control, 87.68% ± 1.86%, *Cone-DTR*, 85.08% ± 4.08%, p = 0.83 by Mann–Whitney U test) and putative rod inputs (P, control, 0.79% ± 0.79%, *Cone-DTR*, 8.33% ± 2.46%, p = 0.021 by Mann–Whitney U test) in control (open, n = 14 cells from 3 mice) and *Cone-DTR* (filled, n = 8 cells from 3 mice) BC7 cells. Throughout this figure, * indicates $p < 0.05$ and ** indicates $p < 0.01$.

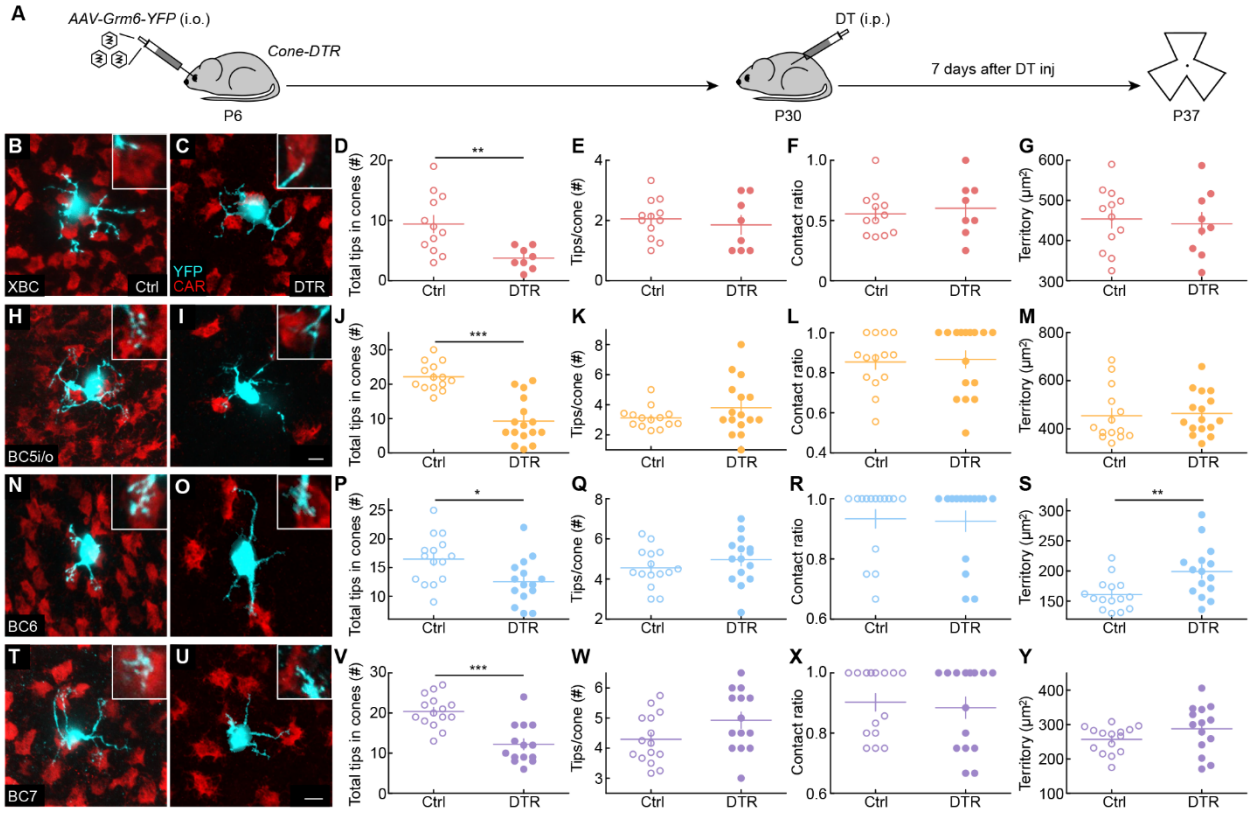

Figure S7. Remodeling of bipolar cell dendrites 7 days after DT injection at P30. Related to Figure 4.
(A) Timeline of the experiment. Mice were intravitreally injected with *AAV-Grm6-YFP* at P6 to label ON bipolar cells, and intraperitoneally injected with DT once at P30 to ablate cones. Seven days after DT injection (P37), retinas were dissected for analysis.
(B, C, H, I, N, O, T, U) Representative images of maximum intensity projections for dendrites (cyan) of XBC (B, C), BC5i/o (H, I), BC6 (N, O), and BC7 (T, U) cells in control (B, H, N, T) and Cone-DTR (C, I, O, U) retinas 30 days after DT injection at P10 with cone arrestin (CAR, red) staining. Scale bar = 5 μm. Insets show higher magnification views of overlaps between dendritic tips and cones pedicles.
(D-G) Summary data for total numbers of tips in cones (D, control, 9.42 ± 1.42, *Cone-DTR*, 3.75 ± 0.65, p = 0.006 by Mann–Whitney U test), numbers of tips per cone (E, control, 2.06 ± 0.19, *Cone-DTR*, 1.85 ± 0.31, p = 0.57 by Mann–Whitney U test), contact ratios (F, control, 0.55 ± 0.05, *Cone-DTR*, 0.60 ± 0.08, p = 0.63 by Mann–Whitney U test), and dendritic territories (G, control, 453.87 ± 22.73 μm^2, *Cone-DTR*, 441.97 ± 27.68 μm^2, p = 0.74 by Mann–Whitney U test) in control (open, n = 12 cells from 4 mice) and *Cone-DTR* (filled, n = 8 cells from 4 mice) XBCs.
(J-M) Summary data for total numbers of tips in cones (J, control, 22.14 ± 1.06, *Cone-DTR*, 9.25 ± 1.63, p = 5.5 x 10^{-5} by Mann–Whitney U test), numbers of tips per cone (K, control, 3.13 ± 0.19, *Cone-DTR*, 3.80 ± 0.46, p = 0.42 by Mann–Whitney U test), contact ratios (L, control, 0.85 ± 0.04, *Cone-DTR*, 0.87 ± 0.04, p = 0.82 by Mann–Whitney U test), and dendritic territories (M, control, 454.26 ± 30.01 μm^2, *Cone-DTR*, 463.76 ± 22.19 μm^2, p = 0.80 by Mann–Whitney U test) in control (open, n = 14 cells from 4 mice) and *Cone-DTR* (filled, n = 16 cells from 3 mice) BC5i/o cells.
(P-S) Summary data for the total numbers of tips in cones (P, control, 16.47 ± 1.08, *Cone-DTR*, 12.53 ± 1.03, p = 0.014 by Mann–Whitney U test), numbers of tips per cone (Q, control, 4.56 ± 0.25, *Cone-DTR*, 4.97 ± 0.31, p = 0.31 by Mann–Whitney U test), contact ratios (R, control, 0.93 ± 0.03, *Cone-DTR*, 0.93 ±

0.03, p = 0.87 by Mann–Whitney U test), and dendritic territories (S, control, 160.93 ± 6.71 μm^2, *Cone-DTR*, 199.14 ± 11.17 μm^2, p = 0.007, by Mann–Whitney U test) in control (open, n = 15 cells from 4 mice) and *Cone-DTR* (filled, n = 15 cells from 4 mice) BC6 cells.
(V-Y) Summary data for total numbers of tips in cones (V, control, 20.40 ± 1.01, *Cone-DTR*, 12.21 ± 1.32, p = 3.45 x 10^{-5} by Mann–Whitney U test), numbers of tips per cone (W, control, 4.29 ± 0.21, *Cone-DTR*, 5.13 ± 0.37, p = 0.056 by Mann–Whitney U test), contact ratios (X, control, 0.90 ± 0.03, *Cone-DTR*, 0.88 ± 0.04, p = 0.68 by Mann–Whitney U test), and dendritic territories (Y, control, 256.82 ± 10.01 μm^2, *Cone-DTR*, 287.68 ± 18.61 μm^2, p = 0.12 by Mann–Whitney U test) in control (open, n = 15 cells from 5 mice) and *Cone-DTR* (filled, n = 14 cells from 5 mice) BC7 cells. Throughout this figure, * indicates p < 0.05, ** indicates p < 0.01, and *** indicates p < 0.001.

Figure Panel	Parameter	Control (Mean ± SEM)	Control (N)	*Cone-DTR* (Mean ± SEM)	*Cone-DTR* (N)	p-value
Figure 1F	Pedicle size (μm^2)	30.63 ± 1.16	22 cells from 3 mice	48.79 ± 1.82	21 cells from 5 mice	1.5×10^{-5}
Figure 1L	Pedicle size (μm^2)	32.52 ± 1.05	22 cells from 3 mice	52.25 ± 1.44	21 cells from 4 mice	6.0×10^{-5}
Figure 1O	Cells thickness (#)-ONL	10.83 ± 0.27	12 slices from 3 mice	10.92 ± 0.29	12 slices from 3 mice	0.85
Figure 1O	Cells thickness (#)-INL	4.42 ± 0.15	12 slices from 3 mice	4.31 ± 0.12	12 slices from 3 mice	0.68
Figure 1U	Cells thickness (#)-ONL	10.63 ± 0.16	16 slices from 3 mice	10.53 ± 0.16	19 slices from 3 mice	0.54
Figure 1U	Cells thickness (#)-INL	4.31 ± 0.12	16 slices from 3 mice	4.37 ± 0.11	19 slices from 3 mice	0.73
Figure 1R	Density (#/μm^2)-M-cones	$11.10 \pm 0.46 \times 10^3$	9 fields from 3 mice	$5.41 \pm 0.24 \times 10^3$	9 fields from 3 mice	1.3×10^{-4}
Figure 1R	Density (#/μm^2)-S-cones	$0.32 \pm 0.03 \times 10^3$	9 fields from 3 mice	$0.16 \pm 0.01 \times 10^3$	9 fields from 3 mice	4.5×10^{-4}
Figure 1R	M-/S-cone ratio	37.22 ± 3.07	9 fields from 3 mice	34.27 ± 2.60	9 fields from 3 mice	0.43
Figure 1X	Density (#/μm^2)-M-cones	$10.85 \pm 0.18 \times 10^3$	12 fields from 3 mice	$5.28 \pm 0.19 \times 10^3$	9 fields from 3 mice	1.2×10^{-4}
Figure 1X	Density (#/μm^2)-S-cones	$0.28 \pm 0.02 \times 10^3$	12 fields from 3 mice	$0.14 \pm 0.01 \times 10^3$	9 fields from 3 mice	1.2×10^{-4}
Figure 1X	M-/S-cone ratio	40.29 ± 2.64	12 fields from 3 mice	39.37 ± 3.18	9 fields from 3 mice	0.97

Table S1. Statistical data for Figure 1.Related to Figure 1. All p-values are from Mann–Whitney U tests.

Figure Panel	Parameter	Control (Mean ± SEM)	Control (N)	*Cone-DTR* (Mean ± SEM)	*Cone-DTR* (N)	p-value
Figure 2F	Axonal territory (μm^2)	1072.99 ± 53.97	14 cells from 3 mice	997.86 ± 59.67	15 cells from 4 mice	0.32
Figure 2M	Axonal territory (μm^2)	396.07 ± 14.37	15 cells from 3 mice	380.95 ± 19.54	19 cells from 4 mice	0.63
Figure 2T	Axonal territory (μm^2)	168.68 ± 7.37	16 cells from 3 mice	177.53 ± 9.18	16 cells from 3 mice	0.34
Figure 2A'	Axonal territory (μm^2)	303.73 ± 14.26	13 cells from 3 mice	285.44 ± 19.34	16 cells from 3 mice	0.52
Figure 2G	Synapses (#)	116.86 ± 3.98	14 cells from 3 mice	120.43 ± 4.55	15 cells from 4 mice	0.14
Figure 2N	Synapses (#)	77.12 ± 2.84	15 cells from 3 mice	81.24 ± 2.55	19 cells from 4 mice	0.22
Figure 2U	Synapses (#)	71.53 ± 3.02	16 cells from 3 mice	68.40 ± 3.27	16 cells from 3 mice	0.80
Figure 2B'	Synapses (#)	115.58 ± 4.17	13 cells from 3 mice	117.08 ± 5.24	16 cells from 3 mice	0.40

Table S2. Statistical data for Figure 2. Related to Figure 2 All p-values are from Mann–Whitney U tests.

Figure Panel	Parameter	Control (Mean ± SEM)	Control (N)	*Cone-DTR* (Mean ± SEM)	*Cone-DTR* (N)	p-value
Figure 3D	Total tips in cones (#)	8.55 ± 0.89	11 cells from 4 mice	7.60 ± 0.72	13 cells from 4 mice	0.11
Figure 3J	Total tips in cones (#)	21.59 ± 0.99	17 cells from 4 mice	19.14 ± 1.18	22 cells from 4 mice	0.13
Figure 3P	Total tips in cones (#)	15.83 ± 0.80	23 cells from 5 mice	14.82 ± 0.92	17 cells from 6 mice	0.42
Figure 3V	Total tips in cones (#)	20.77 ± 1.29	13 cells from 8 mice	16.00 ± 1.07	16 cells from 7 mice	0.008
Figure 3E	Tips/cone (#)	1.42 ± 0.08	11 cells from 4 mice	2.03 ± 0.25	13 cells from 4 mice	0.024
Figure 3K	Tips/cone (#)	3.09 ± 0.19	17 cells from 4 mice	5.81 ± 0.43	22 cells from 4 mice	8.8×10^{-5}
Figure 3Q	Tips/cone (#)	4.03 ± 0.17	23 cells from 5 mice	4.72 ± 0.24	17 cells from 6 mice	0.022
Figure 3W	Tips/cone (#)	3.80 ± 0.20	13 cells from 8 mice	5.36 ± 0.53	16 cells from 7 mice	0.018
Figure 3F	Contact ratio	0.63 ± 0.02	11 cells from 4 mice	0.77 ± 0.04	13 cells from 4 mice	0.006
Figure 3L	Contact ratio	0.82 ± 0.04	17 cells from 4 mice	0.97 ± 0.02	22 cells from 4 mice	6.9×10^{-5}
Figure 3R	Contact ratio	0.95 ± 0.03	23 cells from 5 mice	0.96 ± 0.03	17 cells from 6 mice	0.78
Figure 3X	Contact ratio	0.91 ± 0.03	13 cells from 8 mice	0.98 ± 0.02	16 cells from 7 mice	0.085
Figure 3G	Dendritic territory (μm^2)	436.20 ± 30.25	11 cells from 4 mice	440.85 ± 25.54	13 cells from 4 mice	0.93
Figure 3M	Dendritic territory (μm^2)	440.56 ± 20.58	17 cells from 4 mice	445.71 ± 14.76	22 cells from 4 mice	0.84
Figure 3S	Dendritic territory (μm^2)	153.91 ± 6.90	23 cells from 5 mice	198.26 ± 12.07	17 cells from 6 mice	0.009
Figure 3Y	Dendritic territory (μm^2)	232.82 ± 11.55	13 cells from 8 mice	317.34 ± 26.84	16 cells from 7 mice	0.013

Table S3. Statistical data for Figure 3. Related to Figure 3. All p-values are from Mann–Whitney U tests.

Figure Panel	Parameter	Control (Mean ± SEM)	Control (N)	*Cone-DTR* (Mean ± SEM)	*Cone-DTR* (N)	p-value
Figure 4D	Total tips in cones (#)	9.14 ± 0.84	17 cells from 3 mice	8.25 ± 1.06	20 cells from 5 mice	0.54
Figure 4J	Total tips in cones (#)	21.86 ± 1.09	14 cells from 4 mice	15.19 ± 1.03	16 cells from 4 mice	1.3×10^{-4}
Figure 4P	Total tips in cones (#)	16.37 ± 0.87	19 cells from 5 mice	12.93 ± 1.05	18 cells from 5 mice	0.016
Figure 4V	Total tips in cones (#)	22.00 ± 1.20	14 cells from 8 mice	16.47 ± 1.23	15 cells from 7 mice	0.003
Figure 4E	Tips/cone (#)	2.15 ± 0.13	17 cells from 3 mice	2.90 ± 0.27	20 cells from 5 mice	0.025
Figure 4K	Tips/cone (#)	3.67 ± 0.19	14 cells from 4 mice	4.70 ± 0.21	16 cells from 4 mice	0.002
Figure 4Q	Tips/cone (#)	4.61 ± 0.22	19 cells from 5 mice	5.60 ± 0.38	18 cells from 5 mice	0.023
Figure 4W	Tips/cone (#)	4.04 ± 0.33	14 cells from 8 mice	3.56 ± 0.41	15 cells from 7 mice	0.004
Figure 4F	Contact ratio	0.51 ± 0.05	17 cells from 3 mice	0.76 ± 0.05	20 cells from 5 mice	0.002
Figure 4L	Contact ratio	0.76 ± 0.02	14 cells from 4 mice	0.91 ± 0.03	16 cells from 4 mice	0.003
Figure 4R	Contact ratio	0.94 ± 0.03	19 cells from 5 mice	0.92 ± 0.04	18 cells from 5 mice	0.69
Figure 4X	Contact ratio	0.91 ± 0.03	14 cells from 8 mice	0.89 ± 0.04	15 cells from 7 mice	0.85
Figure 4G	Dendritic territory (μm^2)	454.31 ± 27.68	17 cells from 3 mice	429.01 ± 28.38	20 cells from 5 mice	0.53
Figure 4M	Dendritic territory (μm^2)	453.59 ± 17.37	14 cells from 4 mice	450.12 ± 26.49	16 cells from 4 mice	0.98
Figure 4S	Dendritic territory (μm^2)	158.74 ± 11.50	19 cells from 5 mice	244.03 ± 20.38	18 cells from 5 mice	0.003
Figure 4Y	Dendritic territory (μm^2)	277.64 ± 16.90	14 cells from 8 mice	285.38 ± 27.46	15 cells from 7 mice	0.86

Table S4. Statistical data for Figure 4. Related to Figure 4. All p-values are from Mann–Whitney U tests.

Figure Panel	Parameter	Control (N)	*Cone-DTR* (N)	p-value
Figure 6B	Amplitude (μV)-Dark-adapted flash a-wave	5 mice	6 mice	0.22
Figure 6B	Amplitude (μV)-Dark-adapted flash b-wave	5 mice	6 mice	0.19
Figure 6H	Amplitude (μV)-Dark-adapted flash a-wave	6 mice	8 mice	0.41
Figure 6H	Amplitude (μV)-Dark-adapted flash b-wave	6 mice	8 mice	0.19
Figure 6D	Amplitude (μV)-Light-adapted flash b-wave	5 mice	6 mice	0.79
Figure 6J	Amplitude (μV)-Light-adapted flash b-wave	6 mice	8 mice	0.01
Figure 6F	Amplitude (μV)-Light-adapted flash	9 mice	6 mice	0.17
Figure 6L	Amplitude (μV)-Light-adapted flash	6 mice	8 mice	0.003

Table S5. Statistical data for Figure 6. Related to Figure 6. All p-values are from bootstrapping.

Figure Panel	Parameter	Control (Mean ± SEM)	Control (N)	*Cone-DTR* (Mean ± SEM)	*Cone-DTR* (N)	p-value
Figure 7C	ETMs (# $180s^{-1}$)	10.20 ± 0.58	5 mice	9.83 ± 0.70	6 mice	0.85
Figure 7G	ETMs (# $180s^{-1}$)	10.67 ± 0.80	6 mice	8.14 ± 0.60	7 mice	0.029
Figure 7E	Shallow (%)	80.00 ± 3.94	10 mice	73.33 ± 2.11	6 mice	0.24
Figure 7H	Shallow (%)	81.36 ± 4.36	7 mice	56.25 ± 4.60	8 mice	0.003

Table S6. Statistical data for Figure 7. Related to Figure 7. All p-values are from Mann–Whitney U tests.