CONDITIONAL SIGNALING OF VIDEO CODING SYNTAX ELEMENTS

CROSS REFERENCE TO RELATED APPLICATIONS

[001] This application is based on International Patent Application No. PCT/US2021/028974, filed on April 23, 2021, which claims the priority to and benefits of U.S. Provisional Patent Application No. 63/015,623, filed on April 26, 2020. All the aforementioned patent applications are hereby incorporated by reference in their entiretiesUnder the applicable patent law and/or rules pursuant to the Paris Convention, this application is made to timely claim the priority to and benefits of U.S. Provisional Patent Application No. 63/015,623, filed on April 26, 2020. For all purposes under the law, the entire disclosure of the aforementioned application is incorporated by reference as part of the disclosure of this application.

TECHNICAL FIELD

[002] This patent document relates to image and video coding and decoding.

BACKGROUND

[003] Digital video accounts for the largest bandwidth use on the internet and other digital communication networks. As the number of connected user devices capable of receiving and displaying video increases, it is expected that the bandwidth demand for digital video usage will continue to grow.

SUMMARY

[004] The present document discloses techniques that can be used by video encoders and decoders for processing coded representation of video using control information useful for decoding of the coded representation.

[005] In one example aspect, a video processing method is disclosed. The method includes performing a conversion between a video having one or more chroma components, the video comprising one or more video pictures comprising one or more slices and a coded representation of the video, wherein the coded representation conforms to a format rule, wherein the format rule specifies that a chroma array type field controls a constraint on a conversion characteristic of chroma used during the conversion.

[006] In another example aspect, another video processing method is disclosed. The method includes performing a conversion between a video comprising one or more video pictures comprising one or more video regions and a coded representation of the video, wherein the coded

CLAIMS

1. A method of video processing, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether motion vector difference for a particular reference picture list (RPL) is indicated is conditionally included in the bitstream based on (i) whether a second syntax element indicating whether an RPL information is included in a picture header and/or (ii) a number of reference pictures in the particular RPL in case that the RPL information is present in the picture header.

2. The method of claim 1, wherein the first syntax element is a flag indicative of whether motion vector coding syntax structure of the particular RPL corresponding to reference picture list 1 is parsed or not parsed.

3. The method of claim 1 or 2, wherein the second syntax element corresponds to a flag indicative of whether the RPL information is included in the picture header.

4. The method of any of claims 1 to 3, wherein the number of reference pictures in the particular RPL is set equal to a value of a variable indicating a number of entries in a RPL syntax structure for the particular RPL corresponding to reference picture list 1.

5. The method of any of claims 1 to 4, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if(!pps_rpl_info_in_ph_flag || num_ref_entries[1][RplsIdx[1]] > 0), is met, wherein pps_rpl_info_in_ph_flag is the second syntax element and num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the particular RPL for reference list 1.

6. The method of claim 5, wherein the first syntax element is ph_mvd_l1_zero_flag.

1. A method of processing video data, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether motion vector difference coding syntax structure for a particular reference picture list (RPL) is parsed or not parsed is included in the bitstream when (i) a value of a second syntax element indicates that an RPL information is not present in a picture header or (ii) a value of a third syntax element indicates a number of reference pictures in the particular RPL is greater than 0 in case that the RPL information is present in the picture header, and the first syntax element is excluded from the bitstream when the value of the second syntax element indicates that the RPL information is present in the picture header and the value of the third syntax element indicates the number of the reference pictures in the particular RPL is equal to 0.

2. The method of claim 1, wherein the particular RPL corresponds to reference picture list 1.

3. The method of claim 1 or 2, wherein the format rule further specifies that a value of the first syntax element is inferred to be equal to 1 in case that the first syntax element is not included in the bitstream, wherein the value of the first syntax element equal to 1 specifies that the motion vector difference coding syntax structure for the particular RPL is not parsed.

4. The method of any one of claims 1-3, wherein the format rule further specifies that a fourth syntax element that indicates a number of weights signaled for entries in the particular RPL is conditionally included in a weighted prediction parameters syntax structure indicating a table of weighted prediction parameters of the bitstream based on (iii) a fifth syntax element included in a picture parameter set indicating an applicability of explicit weighted prediction (WP) to B slices referring to the picture parameter set information, and (iv) a sixth syntax element indicating whether WP information is included in the picture header, and (iii) the third syntax element indicating the number of the reference pictures in the particular RPL.

7. The method of claim 5, wherein the format rule specifies to include the first syntax element in case that the condition is met.

8. The method of claim 5, wherein the format rule specifies to omit the first syntax element in case that the condition is not met.

9. The method of any of claims 1 to 4, wherein the format rule further specifies to infer a value of the first SE in case that the first syntax element is not included in the bitstream.

10. The method of claim 9, wherein the format rule further specifies to infer the value of the first syntax element to be equal to X, whereby X is an integer.

11. The method of claim 10, wherein X is 0, 1, or another syntax element.

12. The method of claim 10, wherein X is derived based on or conditioned by one or more another syntax elements.

13. A method of video processing, comprising:
performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a rule, and
wherein the rule specifies which syntax elements in a general constraint information syntax structure that indicates one or more constraints applicable to the conversion are grouped together.

14. The method of claim 13, wherein the general constraint information syntax structure is general_constraints_info( ).

15. The method of claim 13, wherein the rule further specifies that general constraint syntax elements in a particular group are signalled together without interlacing with other general constraint syntax elements in another group.

5. The method of claim 4, wherein the format rule specifies that the fourth syntax element is included in the weighted prediction parameters syntax structure upon satisfying (1) the fifth syntax element having a first value which specifies that the explicit WP is applied to B slices referring to the picture parameter set, wherein the first value is equal to 1, (2) the sixth syntax element having a second value which specifies that a possible presence of the WP information in the picture header and a non-presence of the WP information in slice headers referring to the picture parameter set that do not contain a picture header, wherein the second value is equal to 1, and (3) the value of the third syntax element indicating the number of the reference pictures in the particular RPL being greater than 0.

6. The method of claim 4 or 5, wherein the format rule specifies that the fourth syntax element is excluded from the weighted prediction parameters syntax structure upon not satisfying at least one of (1) the fifth syntax element having a first value which specifies that the explicit WP is applied to B slices referring to the picture parameter set, (2) the sixth syntax element having a second value which specifies that a possible presence of the WP information in the picture header and a non-presence of the WP information in slice headers referring to the picture parameter set that do not contain a picture header, and (3) the value of the third syntax element indicating the number of the reference pictures in the particular RPL being greater than 0.

7. The method of any one of claims 4-6, wherein the format rule specifies that a value of a first variable NumWeightsL1 corresponding to weights for the particular RPL is derived as follows:

if(!pps_weighted_bipred_flag || (pps_wp_info_in_ph_flag && num_ref_entries[1][RplsIdx[1]] == 0))

NumWeightsL1 = 0

else if(pps_wp_info_in_ph_flag)

NumWeightsL1 = num_l1_weights

else

NumWeightsL1 = NumRefIdxActive[1],

wherein pps_weighted_bipred_flag is the fifth syntax element, pps_wp_info_in_ph_flag is the sixth syntax element, num_ref_entries[1][RplsIdx[1]] is the third syntax element, num_l1_weights is the fourth syntax element, and NumRefIdxActive[1] is a second variable

16. The method of claim 13, wherein the rule specifies that inter related syntax elements are grouped together, wherein the inter related syntax elements include general constraint syntax elements about characteristics including at least one of reference picture resampling, resolution change in a coded layer video sequence, weighted prediction, reference wraparound, temporal motion vector prediction, subblock based temporal motion vector prediction, adaptive motion vector prediction, bi directional optical flow, symmetric motion vector difference, decoder side motion vector derivatiom, merge based motion vector difference, affine motion prediction, prediction refinement with optical flow, bi prediction with CU (coding unit) weights, combined inter intra prediction CIIP, or geometric prediction mode.

17. The method of claim 13, wherein the rule specifies that intra-related syntax elements are grouped together, wherein the intra related syntax elements include general constraint syntax elements about characteristics including at least one of a palette coding mode, intra block copy mode, intra sub-partitions (ISP), multi-reference line intra prediction, matrix-based intra prediction, or cross-component linear model.

18. The method of claim 13, wherein the rule specifies that syntax elements related to coding tools are grouped together.

19. The method of claim 13, wherein the rule specifies that syntax elements related to a functionality are grouped together, wherein the functionality related syntax elements include at least one of general constraint syntax elements about intra only, all layers independent, or one access unit only.

20. The method of claim 13, wherein the rule specifies that network abstraction layer (NAL) unit type related syntax elements are grouped together, wherein the NAL unit type related syntax elements include at least one of general constraint syntax elements about a NAL unit type equal to TRAIL, STSA, RASL, RADL, IDR, CRA, GDR, APS, or other types.

indicating a number of active reference pictures in the reference picture list 1 that allowed to be used to code at least one slice.

8. The method of any one of claims 1-7, wherein the format rule specifies which general constraint syntax elements in a general constraint information syntax structure that indicates one or more constraints applicable to the conversion are grouped together, general constraint syntax elements in a particular group are signaled together without interlacing with other general constraint syntax elements in another group.

9. The method of claim 8, wherein the rule specifies that inter-related syntax elements are grouped together, wherein the inter-related syntax elements include general constraint syntax elements about characteristics including at least one of reference picture resampling, resolution change in a coded layer video sequence, weighted prediction, reference wraparound, temporal motion vector prediction, subblock-based temporal motion vector prediction, adaptive motion vector prediction, bi-directional optical flow, symmetric motion vector difference, decoder-side motion vector derivation, merge based motion vector difference, affine motion prediction, prediction refinement with optical flow, bi-prediction with CU (coding unit) weights, combined inter-intra prediction CIIP, or geometric prediction mode.

10. The method of claim 8 or 9, wherein the rule specifies that intra-related syntax elements are grouped together, wherein the intra-related syntax elements include general constraint syntax elements about characteristics including at least one of a palette coding mode, intra block copy mode, intra sub-partitions (ISP), multi-reference line intra prediction, matrix-based intra prediction, or cross-component linear model.

11. The method of any one of claims 1-10, wherein the conversion includes encoding the video into the bitstream.

12. The method of any one of claims 1-10, wherein the conversion includes decoding the video from the bitstream.

21. The method of claim 13, wherein the rule specifies that partitioning related syntax elements are grouped together, wherein the partitioning related syntax elements are about partitioning of a tile, slice, or subpicture.

22. The method of claim 13, wherein the rule specifies that partitioning related syntax elements are grouped together, wherein the partitioning related syntax elements are about partitioning of a coding tree unit or a block.

23. The method of claim 13, wherein the rule specifies that transform, quantization, residual coding related syntax elements are grouped together, wherein the transform, quantization, residual coding related syntax elements include general constraint syntax elements about characteristics including at least one of transform skip, sub-block transform, multiple transform selection, low frequency non-separable secondary transform , explicit scaling list, dependent quantization, CU (coding unit) QP (quantization parameter) delta, chroma QP offset, joint CbCr, adaptive colour transform, or sign data hiding.

24. The method of claim 13, wherein the rule specifies that loop filter related syntax elements are grouped together, wherein the loop filter related syntax elements include general constraint syntax elements about characteristics including at least one of adaptive loop filtering, cross-component adaptive loop filtering, sample adaptive offset, luma mapping with chroma scaling, or large block adaptive deblocking filter.

25. A method of video processing, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that an indication that use of intra slices within a picture is enabled for a picture is selectively included based on (i) whether an inter slice is allowed in the picture and/or (ii) whether the picture is partitioned into more than one partitions.

13. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

perform a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether motion vector difference coding syntax structure for a particular reference picture list (RPL) is parsed or not parsed is included in the bitstream when (i) a value of a second syntax element indicates that an RPL information is not present in a picture header or (ii) a value of a third syntax element indicates a number of reference pictures in the particular RPL is greater than 0 in case that the RPL information is present in the picture header, and the first syntax element is excluded from the bitstream when the value of the second syntax element indicates that the RPL information is present in the picture header and the value of the third syntax element indicates the number of the reference pictures in the particular RPL is equal to 0.

14. The apparatus of claim 13, wherein the particular RPL corresponds to reference picture list 1,

wherein the format rule further specifies that a value of the first syntax element is inferred to be equal to 1 in case that the first syntax element is not included in the bitstream, wherein the value of the first syntax element equal to 1 specifies that the motion vector difference coding syntax structure for the particular RPL is not parsed.

15. The apparatus of claim 13 or 14, wherein the format rule further specifies that a fourth syntax element that indicates a number of weights signaled for entries in the particular RPL is conditionally included in a weighted prediction parameters syntax structure indicating a table of weighted prediction parameters of the bitstream based on (iii) a fifth syntax element included in a picture parameter set indicating an applicability of explicit weighted prediction (WP) to B slices referring to the picture parameter set information, and (iv) a sixth syntax element indicating whether WP information is included in the picture header, and (iii) the third syntax element indicating the number of the reference pictures in the particular RPL.

26. The method of claim 25, wherein the format rule specifies to include the indication in case a condition, ph_inter_slice_allowed_flag is met, wherein ph_inter_slice_allowed_flag indicates whether the inter slice is allowed.

27. The method of claim 25, wherein the format rule specifies that in response to a value of a first syntax element specifies a presence of one or more coded slices in the picture that has a slice type equal to B or P slice, a second syntax element indicates whether the inter slice is allowed is included in the bitstream.

28. The method of claim 25, wherein the format rule specifies to include the indication in case a condition, ph_inter_slice_allowed_flag && (!no_pic_partition_flag && !(rect_slice_flag && num_slices_in_pic_minus1 = = 0, is met, wherein ph_inter_slice_allowed_flag indicates whether the inter slice is allowed and no_pic_partition_flag indicates whether the picture is partitioned into more than one tile or slice, rect_slice_flag indicates whether a rectangular slice mode is in use for the picture, and num_slices_in_pic_minus1 indicates a number of rectangular slices in the picture.

29. The method of claim 28, wherein the format rule specifies to omit the indication in case that the condition is not met.

30. The method of claim 29, wherein the format rule specifies to infer a value of the indication in case that the indication is not present.

31. The method of claim 30, wherein the format rule specifies to infer the value of the indication to be equal to (!ph_inter_slice_allowed_flag) or (1 = ph_inter_slice_allowed_flag).

32. A method of video processing, comprising:
performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

16. The apparatus of claim 15, wherein the format rule specifies that the fourth syntax element is included in the weighted prediction parameters syntax structure upon satisfying (1) the fifth syntax element having a first value which specifies that the explicit WP is applied to B slices referring to the picture parameter set, wherein the first value is equal to 1, (2) the sixth syntax element having a second value which specifies that a possible presence of the WP information in the picture header and a non-presence of the WP information in slice headers referring to the picture parameter set that do not contain a picture header, wherein the second value is equal to 1, and (3) the value of the third syntax element indicating the number of the reference pictures in the particular RPL being greater than 0,

wherein the format rule specifies that the fourth syntax element is excluded from the weighted prediction parameters syntax structure upon not satisfying at least one of (1) the fifth syntax element having a first value which specifies that the explicit WP is applied to B slices referring to the picture parameter set, (2) the sixth syntax element having a second value which specifies that a possible presence of the WP information in the picture header and a non-presence of the WP information in slice headers referring to the picture parameter set that do not contain a picture header, and (3) the value of the third syntax element indicating the number of the reference pictures in the particular RPL being greater than 0, and

wherein the format rule specifies that a value of a first variable NumWeightsL1 corresponding to weights for the particular RPL is derived as follows:

if(!pps_weighted_bipred_flag || (pps_wp_info_in_ph_flag && num_ref_entries[1][RplsIdx[1]] = = 0))

NumWeightsL1 = 0

else if(pps_wp_info_in_ph_flag)

NumWeightsL1 = num_l1_weights

else

NumWeightsL1 = NumRefIdxActive[1],

wherein pps_weighted_bipred_flag is the fifth syntax element, pps_wp_info_in_ph_flag is the sixth syntax element, num_ref_entries[1][RplsIdx[1]] is the third syntax element, num_l1_weights is the fourth syntax element, and NumRefIdxActive[1] is a second variable indicating a number of active reference pictures in the reference picture list 1 that allowed to be used to code at least one slice.

wherein the format rule specifies that a first syntax element that indicates whether a decoder motion vector refinement (DMVR) tool is disabled is conditionally included in the bitstream based on (i) whether a second syntax element indicating whether a reference picture list (RPL) information is included in a picture header (PH), and/or (ii) a number of reference pictures in a RPL in case that the RPL information is present in the PH, and/or (iii) whether a flag indicative of applicability of the DMVR tool included at a sequence parameter set level in the bitstream is equal to a certain value.

33. The method of claim 32, wherein the first syntax element corresponds to a PH flag indicative of whether the DMVR tool is disabled.

34. The method of claim 32 or 33, wherein the second syntax element corresponds to a flag indicative of whether the RPL information is included in the picture header.

35. The method of any of claims 32 to 34, wherein the number of reference pictures in the RPL is set equal to a value of a syntax element indicating a number of entries in a RPL syntax structure.

36. The method of any of claims 32 to 35, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if(sps_dmvr_pic_present_flag && (!rpl_info_in_ph_flag || (num_ref_entries[1][RplsIdx[1]] > 0))), is met, wherein rpl_info_in_ph_flag is the second syntax element, num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the RPL, and sps_dmvr_pic_present_flag is the flag indicative of the applicability of the DMVR tool.

37. The method of claim 36, wherein the format rule specifies to include the first syntax element in case that the condition is met.

38. The method of claim 36, wherein the format rule specifies to omit the first syntax element in case that the condition is not met.

17. A non-transitory computer-readable storage medium storing instructions that cause a processor to:

perform a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether motion vector difference coding syntax structure for a particular reference picture list (RPL) is parsed or not parsed is included in the bitstream when (i) a value of a second syntax element indicates that an RPL information is not present in a picture header or (ii) a value of a third syntax element indicates a number of reference pictures in the particular RPL is greater than 0 in case that the RPL information is present in the picture header, and the first syntax element is excluded from the bitstream when the value of the second syntax element indicates that the RPL information is present in the picture header and the value of the third syntax element indicates the number of the reference pictures in the particular RPL is equal to 0.

18. The non-transitory computer-readable storage medium of claim 17, wherein the particular RPL corresponds to reference picture list 1,

wherein the format rule further specifies that a value of the first syntax element is inferred to be equal to 1 in case that the first syntax element is not included in the bitstream, wherein the value of the first syntax element equal to 1 specifies that the motion vector difference coding syntax structure for the particular RPL is not parsed, and

wherein the format rule further specifies that a fourth syntax element that indicates a number of weights signaled for entries in the particular RPL is conditionally included in a weighted prediction parameters syntax structure indicating a table of weighted prediction parameters of the bitstream based on (iii) a fifth syntax element included in a picture parameter set indicating an applicability of explicit weighted prediction (WP) to B slices referring to the picture parameter set information, and (iv) a sixth syntax element indicating whether WP information is included in the picture header, and (iii) the third syntax element indicating the number of the reference pictures in the particular RPL.

39. The method of any of claims 32 to 35, wherein the format rule further specifies to infer a value of the first syntax element in case that the first syntax element is not included in the bitstream.

40. The method of claim 39, wherein the format rule further specifies to infer the value of the first syntax element to be equal to X, whereby X is an integer.

41. The method of claim 40, wherein X is 0, 1, or another syntax element.

42. The method of claim 40, wherein X is derived based on or conditioned by one or more another syntax elements.

43. A method of video processing, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether to disable a bi-directional optical flow (BDOF) tool is conditionally included in the bitstream based on (i) whether a second syntax element indicating whether a reference picture list (RPL) information is included in a picture header (PH), and/or (ii) a number of reference pictures in a RPL in case that the RPL information is present in the PH, and/or (iii) a flag indicative of applicability of the BDOF tool at a sequence parameter set level.

44. The method of claim 43, wherein the first syntax element corresponds to a PH flag indicative of applicability of the BDOF tool.

45. The method of claim 43 or 44, wherein the second syntax element corresponds to a flag indicative of whether the RPL information is included in the picture header.

46. The method of any of claims 43 to 45, wherein the number of reference pictures in the RPL is set equal to a value of a syntax element indicating a number of entries in a RPL syntax structure.

19. A non-transitory computer-readable recording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

generating the bitstream of the video comprising one or more pictures according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether motion vector difference coding syntax structure for a particular reference picture list (RPL) is parsed or not parsed is included in the bitstream when (i) a value of a second syntax element indicates that an RPL information is not present in a picture header or (ii) a value of a third syntax element indicates a number of reference pictures in the particular RPL is greater than 0 in case that the RPL information is present in the picture header, and the first syntax element is excluded from the bitstream when the value of the second syntax element indicates that the RPL information is present in the picture header and the value of the third syntax element indicates the number of the reference pictures in the particular RPL is equal to 0.

20. The non-transitory computer-readable recording medium of claim 19, wherein the particular RPL corresponds to reference picture list 1,

wherein the format rule further specifies that a value of the first syntax element is inferred to be equal to 1 in case that the first syntax element is not included in the bitstream, wherein the value of the first syntax element equal to 1 specifies that the motion vector difference coding syntax structure for the particular RPL is not parsed, and

wherein the format rule further specifies that a fourth syntax element that indicates a number of weights signaled for entries in the particular RPL is conditionally included in a weighted prediction parameters syntax structure indicating a table of weighted prediction parameters of the bitstream based on (iii) a fifth syntax element included in a picture parameter set indicating an applicability of explicit weighted prediction (WP) to B slices referring to the picture parameter set information, and (iv) a sixth syntax element indicating whether WP information is included in the picture header, and (iii) the third syntax element indicating the number of the reference pictures in the particular RPL.

47. The method of any of claims 43 to 46, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if(sps_bdof_pic_present_flag && (!rpl_info_in_ph_flag || (num_ref_entries[1][RplsIdx[1]] > 0))), is met, wherein rpl_info_in_ph_flag is the second syntax element, num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the RPL, and sps_bdof_pic_present_flag is the flag indicative of the applicability of the BDOF tool.

48. The method of claim 47, wherein the format rule specifies to include the first syntax element in case that the condition is met.

49. The method of claim 47, wherein the format rule specifies to omit the first syntax element in case that the condition is not met.

50. The method of any of claims 43 to 46, wherein the format rule further specifies to infer a value of the first syntax element in case that the first syntax element is not included in the bitstream.

51. The method of claim 50, wherein the format rule further specifies to infer the value of the first syntax element to be equal to X, whereby X is an integer.

52. The method of claim 51, wherein X is 0, 1, or another syntax element.

53. The method of claim 51, wherein X is derived based on or conditioned by one or more another syntax elements.

54. A method of video processing, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies that a first syntax element that indicates whether a collocated picture used for temporal motion vector prediction is derived from reference picture list 0 is conditionally included based on (i) a second syntax element indicating whether a reference picture

list (RPL) information is signaled in a picture header (PH), and/or (ii) a number of reference pictures in a RPL in case that the RPL information is present in the PH, and/or (iii) a flag indicative of an applicability of a temporal motion vector prediction (TMVP) tool for coding a current picture.

55. The method of claim 54, wherein the first syntax element corresponds to a flag indicative of whether the collocated picture used for the temporal motion vector prediction is derived from the reference picture list 0 or a reference picture list 1.

56. The method of claim 53 or 54, wherein the second syntax element corresponds to a flag indicative of whether the RPL information is included in the picture header.

57. The method of any of claims 54 to 56, wherein the number of reference pictures in the RPL is set equal to a value of a syntax element indicating a number of entries in a RPL syntax structure.

58. The method of any of claims 54 to 57, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if(ph_temporal_mvp_enabled_flag&&(!rpl_info_in_ph_flag||num_ref_entries[1][RplsIdx[1]] > 0), is met, wherein rpl_info_in_ph_flag is the second syntax element, num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the RPL, and ph_temporal_mvp_enabled_flag is the flag indicative of the applicability of the temporal motion vector prediction (TMVP) tool.

59. The method of any of claims 54 to 57, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if(ph_temporal_mvp_enabled_flag&&rpl_info_in_ph_flag&&num_ref_entries[1][RplsIdx[1]] > 0), is met, wherein rpl_info_in_ph_flag is the second syntax element, num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the RPL, and ph_temporal_mvp_enabled_flag is the flag indicative of the applicability of the temporal motion vector prediction (TMVP) tool.

60. The method of claim 58 or 59, wherein the format rule specifies to include the first syntax element in case that the condition is met.

61. The method of claim 58 or 59, wherein the format rule specifies to omit the first syntax element in case that the condition is not met.

62. The method of any of claims 54 to 57, wherein the format rule further specifies to infer a value of the first syntax element in case that the first syntax element is not included in the bitstream.

63. The method of claim 62, wherein the format rule further specifies to infer the value of the first syntax element to be equal to X, whereby X is an integer.

64. The method of claim 63, wherein X is 0, 1, or another syntax element.

65. The method of claim 63, wherein X is derived based on or conditioned by one or more another syntax elements.

66. A method of video processing, comprising:

performing a conversion between a video comprising one or more pictures and a bitstream of the video according to a format rule, and

wherein the format rule specifies whether a first syntax element indicating a table of prediction weights is conditionally included in the bitstream based on (i) a second syntax element indicating whether weighted prediction (WP) information is included in a picture header (PH), and/or (ii) a third syntax element indicating whether a reference picture list (RPL) information is included in the PH, and/or (iii) a number of reference pictures in a RPL in case that the RPL information is present in the PH, and/or (iv) a fourth syntax element indicating an applicability of weighted prediction and/or a fifth syntax element indicating an applicability of weighted bi-prediction that is included in a picture parameter set.

67. The method of claim 66, wherein the format rule specifies whether to include the first syntax element depends on whether a condition, if((pps_weighted_pred_flag || (pps_weighted_bipred_flag && (!rpl_info_in_ph_flag || num_ref_entries[1][RplsIdx[1]] > 0))) && wp_info_in_ph_flag), is met, and wherein wp_info_in_ph_flag is the second syntax element, rpl_info_in_ph_flag is the third syntax element, num_ref_entries[1][RplsIdx[1] is the number of reference pictures in the RPL, pps_weighted_pred_flag is the fourth syntax element, and pps_weighted_bipred_flag is the fifth syntax element.

68. The method of claim 67, wherein the format rule specifies to include the first syntax element in the picture header in case the condition is met.

69. The method of claim 67, wherein the format rule specifies to omit the first syntax element in case that the condition is not met.

70. The method of any of claims 1 to 69, wherein the conversion includes encoding the video into the bitstream.

71. The method of any of claims 1 to 69, wherein the conversion includes decoding the video from the bitstream.

72. The method of any of claims 1 to 69, wherein the conversion includes generating the bitstream from the video, and the method further comprises: storing the bitstream in a non-transitory computer-readable recording medium.

73. A video processing apparatus comprising a processor configured to implement a method recited in any one or more of claims 1 to 72.

74. A method of storing a bitstream of a video, comprising, a method recited in any one of claims 1 to 72, and further including storing the bitstream to a non-transitory computer-readable recording medium.

~~75. A computer readable medium storing program code that, when executed, causes a processor to implement a method recited in any one or more of claims 1 to 72.~~

~~76. A computer readable medium that stores a bitstream generated according to any of the above described methods.~~

~~77. A video processing apparatus for storing a bitstream, wherein the video processing apparatus is configured to implement a method recited in any one or more of claims 1 to 72.~~