CLAIMS

1. A method for processing video data, comprising:

determining, for a conversion between a coding tree node of a video and a bitstream of the video, a scheme for splitting a luma parent block of the coding tree node and a chroma parent block of the coding tree node, and for predicting one or more luma blocks from the luma parent block and one or more chroma blocks from the chroma parent block; and

performing the conversion according to the scheme,

wherein a first scheme is applied to the coding tree node for a first color format, and

wherein a second scheme different from the first scheme is applied to the coding tree node for a second color format different from the first color format in case that the coding tree node satisfies a predetermined condition relating to a size of the luma parent block,

wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:0 color format and with a luma parent block having a predetermined size MxN, the luma parent block is allowed to be split to two or more luma blocks with a horizontal BT (binary tree) partition or a vertical BT partition, and the chroma parent block of the coding tree node is not allowed to be split with the horizontal BT partition or the vertical BT partition,

wherein the mode type of the two or more luma blocks are set to MODE_TYPE_INTRA or MODE_TYPE_INTER, and

wherein M and N are positive integers.

2. The method of claim 1, wherein the first color format is 4:0:0 color format or 4:4:4 color format, and the second color format is 4:2:0 color format or 4:2:2 color format.

3. The method of claim 1 or claim 2, wherein the first scheme and the second scheme have different constrains on mode types of the one or more luma blocks and the one or more chroma blocks.

4. The method of claim 1 or claim 2, wherein in the first scheme, the mode types of the one or more luma blocks and the one or more chroma blocks are MODE_TYPE_ALL, and

wherein in the second scheme, the mode types of the one or more luma blocks and the one or more chroma blocks are MODE_TYPE_INTRA or MODE_TYPE_INTER.

5. The method of claim 1 or claim 2, wherein in the first scheme, a same partitioning scheme is used to partition the chroma parent block and the luma parent block, and
wherein in the second scheme, in case that the mode type of the chroma parent block is MODE_TYPE_INTRA, different partitioning schemes are used to partition the chroma parent block and the luma parent block separately.

6. The method of claim 5, wherein in the second scheme, the chroma parent block is not allowed to be partitioned, and a tree type of the chroma parent block is set to DUAL_TREE_CHROMA.

7. The method of claim 1 or claim 2, wherein in the second scheme, in case that the mode type of the chroma parent block is MODE_TYPE_INTRA, constrains on a size of the chroma parent block are same for 4:2:0 color format and 4:2:2 color format, wherein the constrains comprise that a width and a height of the chroma parent block are both no less than 4.

8. The method of claim 1, wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:2 color format and with a luma parent block having the predetermined size MxN, the luma parent block and a chroma parent block of the coding tree node are both allowed to be split to two or more luma blocks and two or more chroma blocks with the horizontal BT partition or the vertical BT partition,
wherein the mode types of the two or more luma blocks and the two or more chroma blocks are set to MODE_TYPE_ALL.

9. The method of claim 1 or claim 8, wherein MxN=64.

10. The method of claim 1, wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:0 color format and with a luma parent block having a predetermined size PxQ, the luma parent block is allowed to be split to two or more luma blocks with a horizontal TT (ternary tree) partition or a vertical TT partition, and the chroma parent block of the coding tree node is not allowed to be split with the horizontal TT partition or the vertical TT partition,
wherein the mode types of the two luma blocks and the chroma parent block are set to MODE_TYPE_INTRA or MODE_TYPE_INTER, and

wherein P and Q are positive integers.

11. The method of claim 1, wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:2 color format and with a luma parent block having the predetermined size PxQ, the luma parent block and a chroma parent block of the coding tree node are both allowed to be split to two or more luma blocks and two or more chroma blocks with the horizontal TT partition or the vertical TT partition,
wherein the mode types of the two or more luma blocks and the two or more chroma blocks are set to MODE_TYPE_ALL, wherein P and Q are positive integers.

12. The method of claim 10 or claim 11, wherein PxQ= 128.

13. The method of any one of claims 1-12, wherein the conversion includes encoding the video into the bitstream.

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

15. 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:

determine, for a conversion between a coding tree node of a video and a bitstream of the video, a scheme for splitting a luma parent block of the coding tree node into one or more luma blocks by one or more partitions, for splitting a chroma parent block of the coding tree node into one or more chroma blocks by one or more partitions, and for predicting the one or more luma blocks and the one or more chroma blocks; and

perform the conversion according to the scheme,
wherein a first scheme is applied to the coding tree node for a first color format, and
wherein a second scheme different from the first scheme is applied to the coding tree node for a second color format different from the first color format in case that the coding tree node satisfies a predetermined condition relating to a size of the luma parent block,

wherein in the second scheme, for a coding tree node with a slice type being I slice, with a

4:2:0 color format and with a luma parent block having a predetermined size MxN, the luma parent block is allowed to be split to two or more luma blocks with a horizontal BT (binary tree) partition or a vertical BT partition, and the chroma parent block of the coding tree node is not allowed to be split with the horizontal BT partition or the vertical BT partition,

wherein the mode type of the two or more luma blocks are set to MODE_TYPE_INTRA or MODE_TYPE_INTER, and

wherein M and N are positive integers.

16. The apparatus of claim 15, wherein the first color format is 4:0:0 color format or 4:4:4 color format, and the second color format is 4:2:0 color format or 4:2:2 color format.

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

determine, for a conversion between a coding tree node of a video and a bitstream of the video, a scheme for splitting a luma parent block of the coding tree node into one or more luma blocks by one or more partitions, for splitting a chroma parent block of the coding tree node into one or more chroma blocks by one or more partitions, and for predicting the one or more luma blocks and the one or more chroma blocks; and

perform the conversion according to the scheme,

wherein a first scheme is applied to the coding tree node for a first color format, and

wherein a second scheme different from the first scheme is applied to the coding tree node for a second color format different from the first color format in case that the coding tree node satisfies a predetermined condition relating to a size of the luma parent block,

wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:0 color format and with a luma parent block having a predetermined size MxN, the luma parent block is allowed to be split to two or more luma blocks with a horizontal BT (binary tree) partition or a vertical BT partition, and the chroma parent block of the coding tree node is not allowed to be split with the horizontal BT partition or the vertical BT partition,

wherein the mode type of the two or more luma blocks are set to MODE_TYPE_INTRA or MODE_TYPE_INTER, and

wherein M and N are positive integers.

18. 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:

determining, for a coding tree node of a video, a scheme for splitting a luma parent block of the coding tree node into one or more luma blocks by one or more partitions, for splitting a chroma parent block of the coding tree node into one or more chroma blocks by one or more partitions, and for predicting the one or more luma blocks and the one or more chroma blocks; and

generating the bitstream according to the scheme,

wherein a first scheme is applied to the coding tree node for a first color format, and

wherein a second scheme different from the first scheme is applied to the coding tree node for a second color format different from the first color format in case that the coding tree node satisfies a predetermined condition relating to a size of the luma parent block,

wherein in the second scheme, for a coding tree node with a slice type being I slice, with a 4:2:0 color format and with a luma parent block having a predetermined size MxN, the luma parent block is allowed to be split to two or more luma blocks with a horizontal BT (binary tree) partition or a vertical BT partition, and the chroma parent block of the coding tree node is not allowed to be split with the horizontal BT partition or the vertical BT partition,

wherein the mode type of the two or more luma blocks are set to MODE_TYPE_INTRA or MODE_TYPE_INTER, and

wherein M and N are positive integers.