作成された基底

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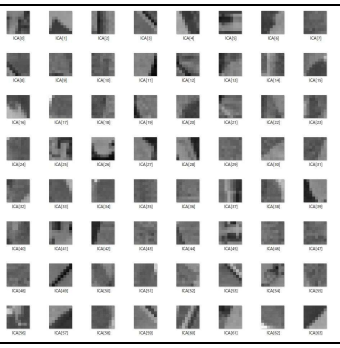
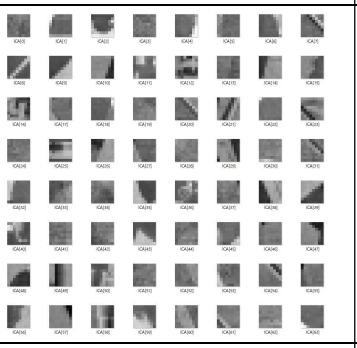
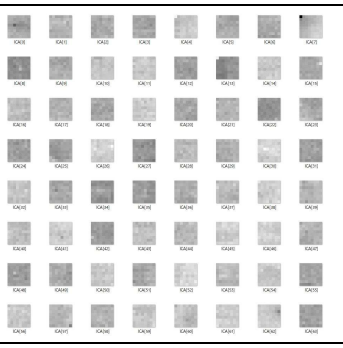
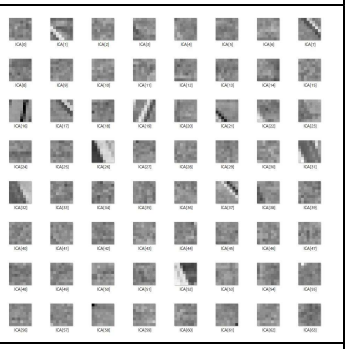
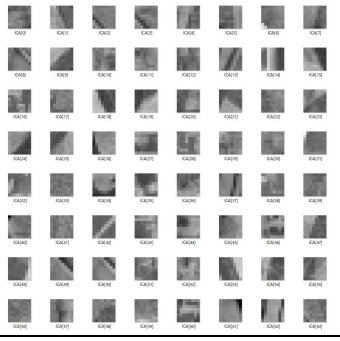
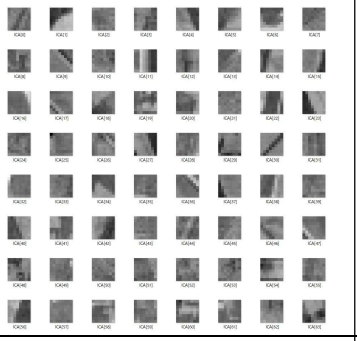
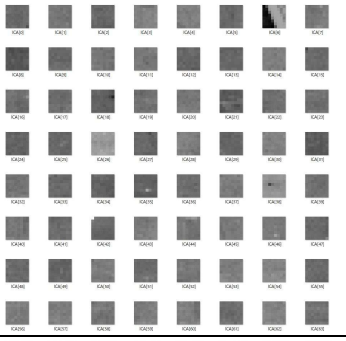
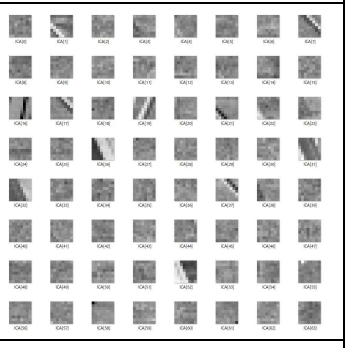
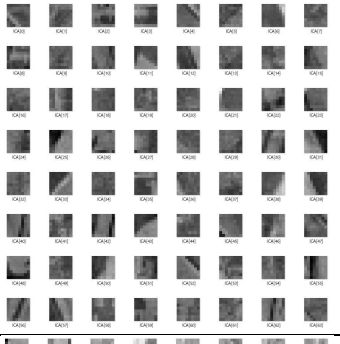
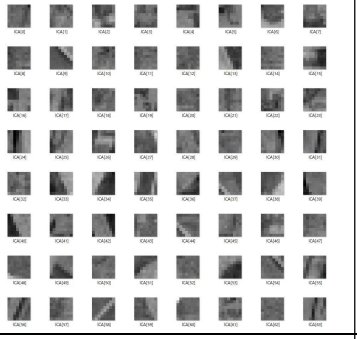
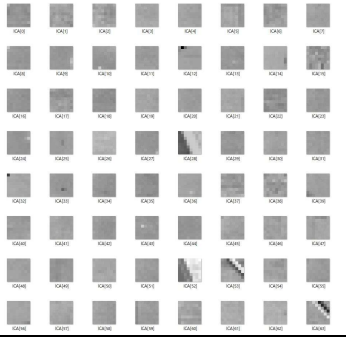
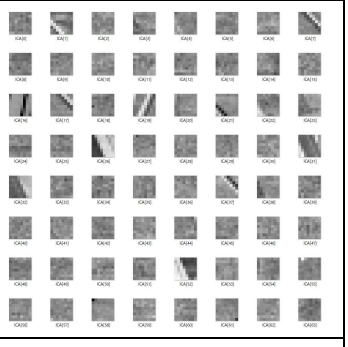
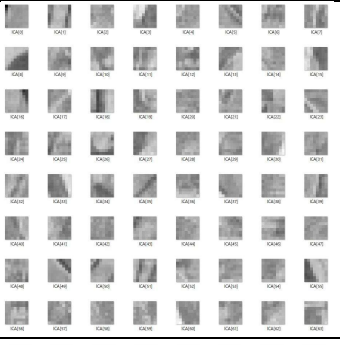
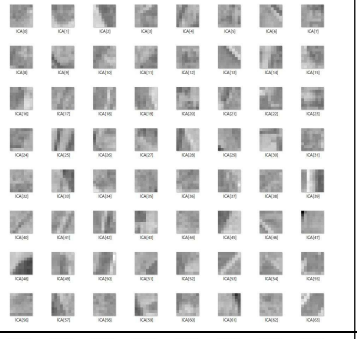
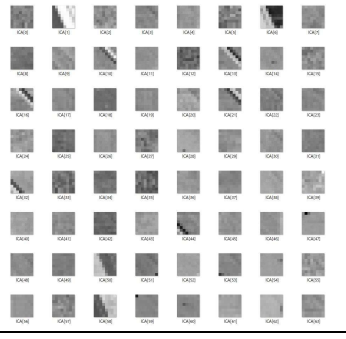
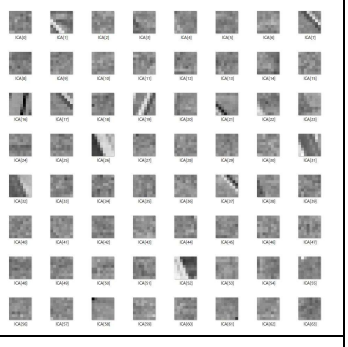
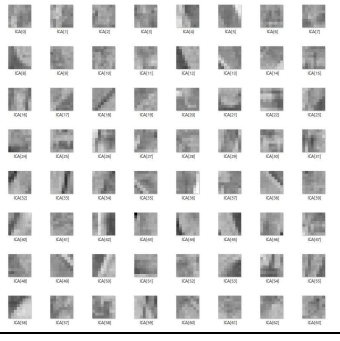
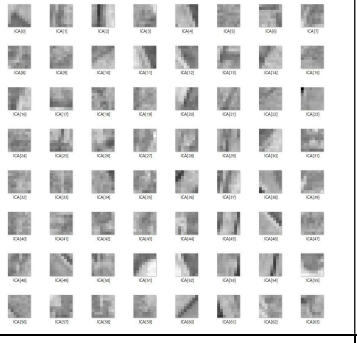
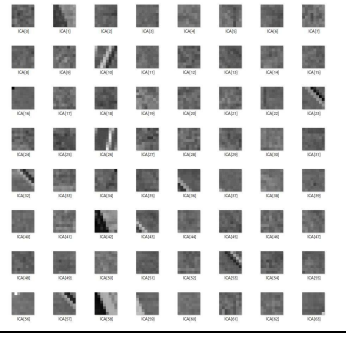
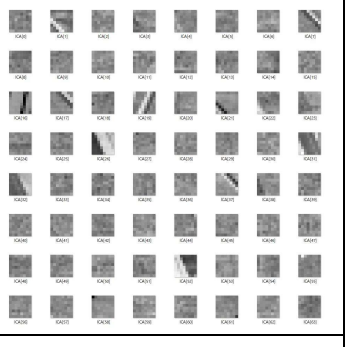
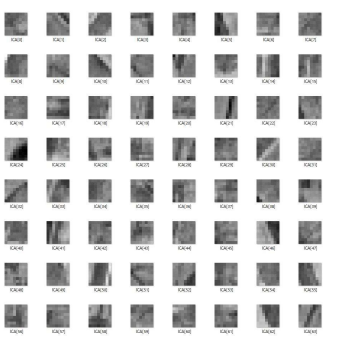
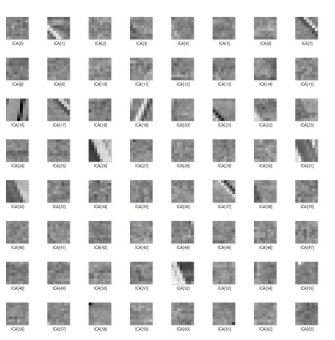
80				
70				
60				
50				
40				
30				

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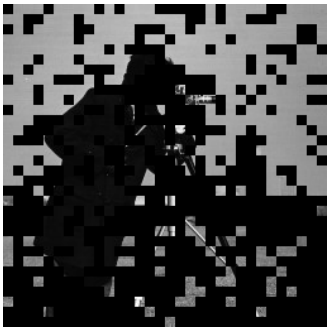
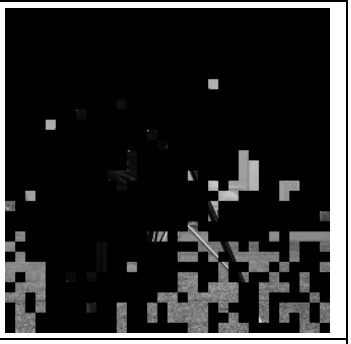
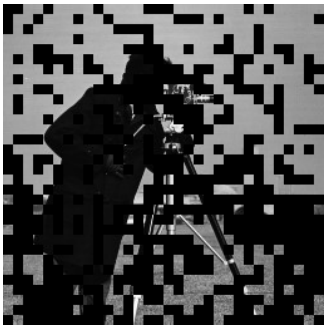
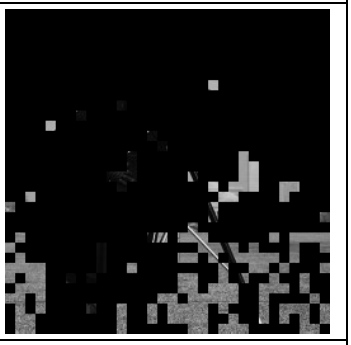
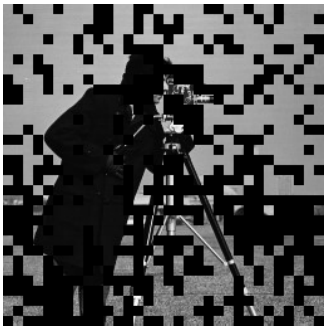
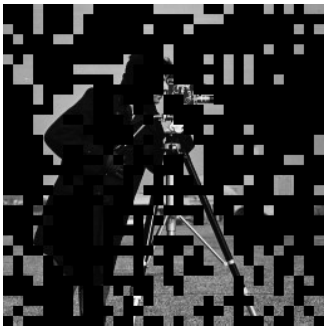
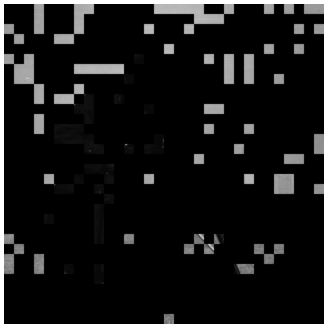
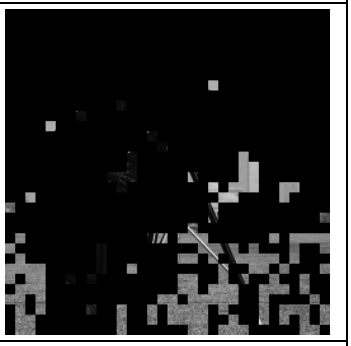
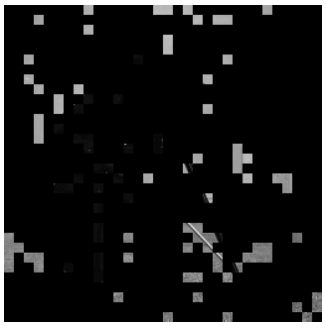
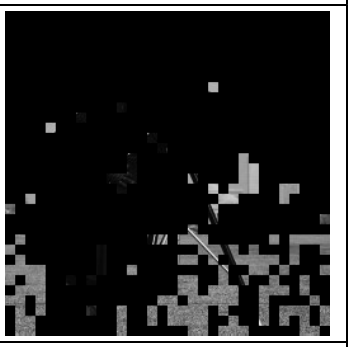
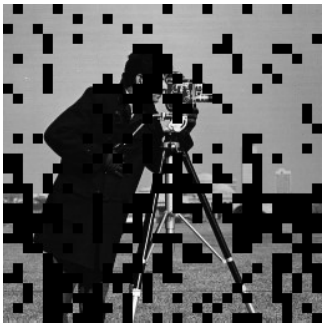
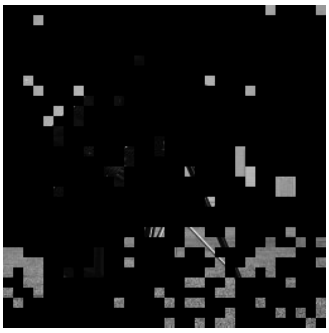
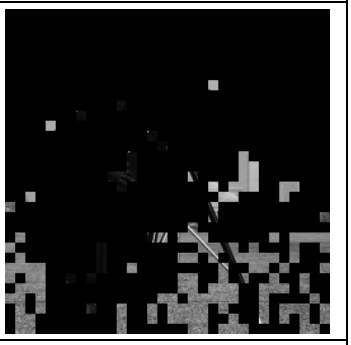
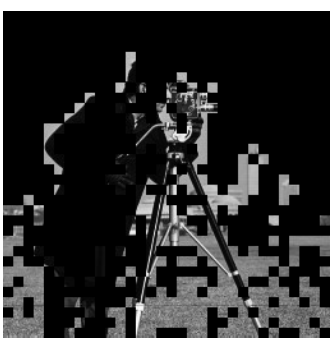
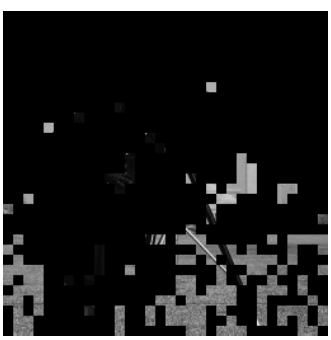
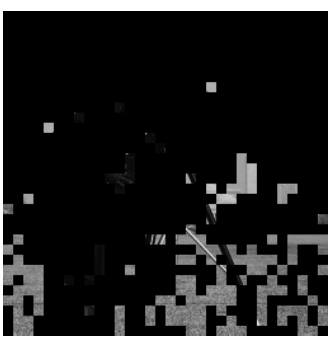
80				
70				
60				
50				
40				
30				

適用領域（修正版）

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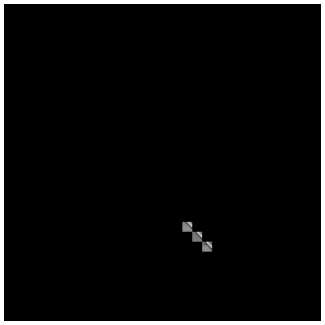
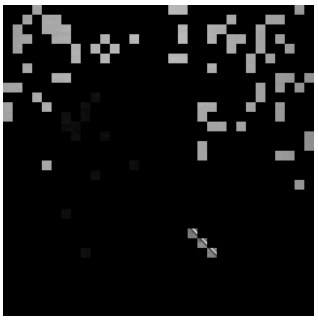
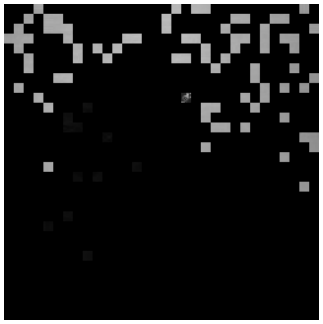
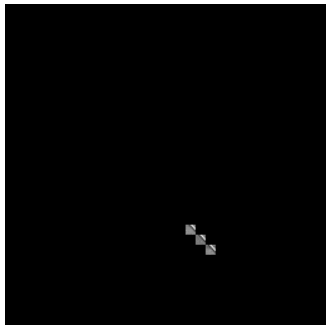
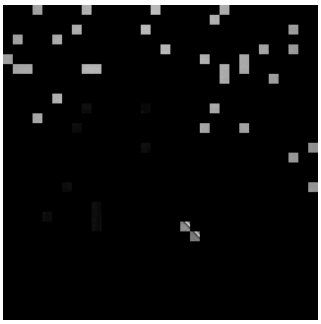
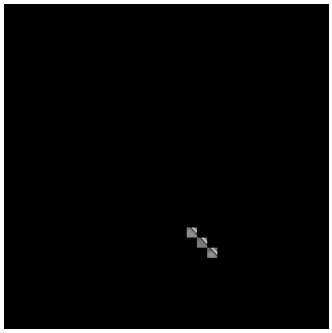
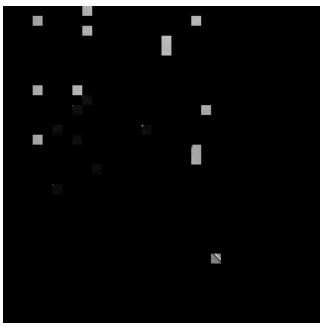
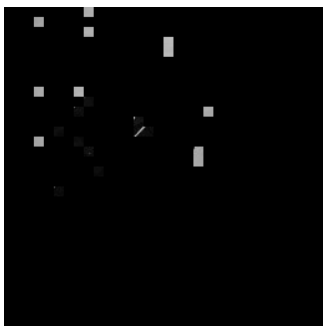
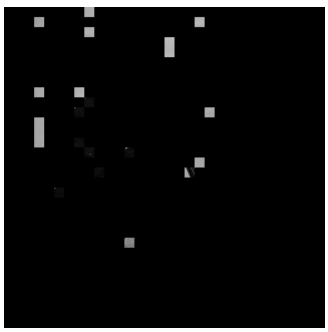
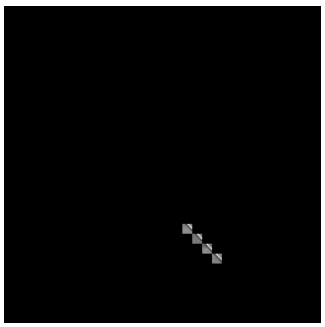
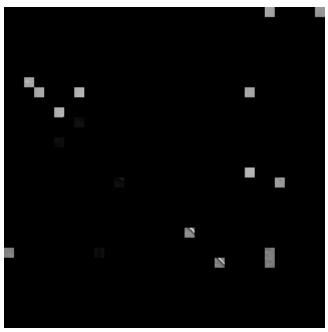
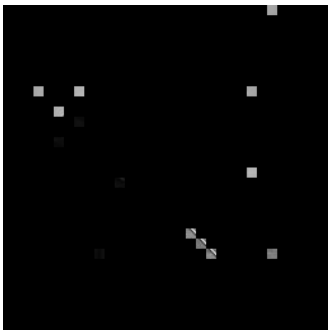
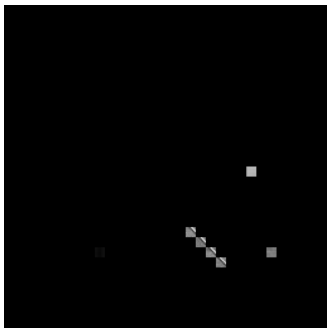
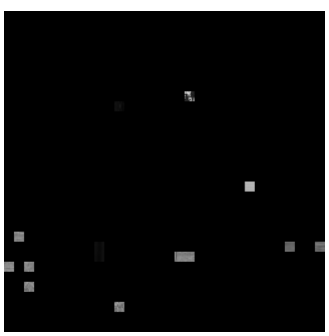
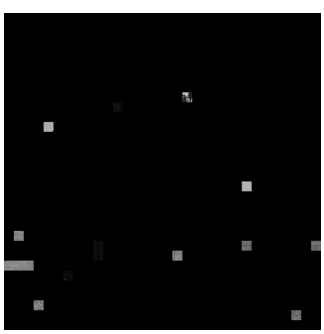
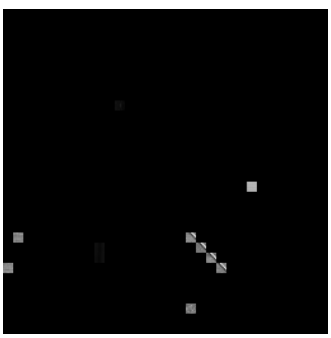
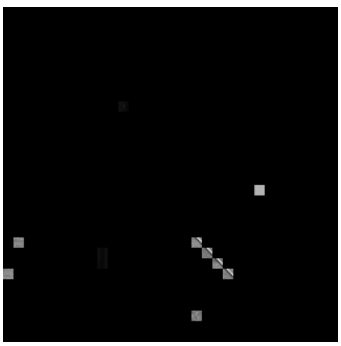
80				
70				
60				
50				
40				
30				

適用領域（修正版）

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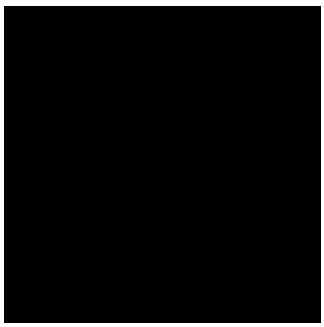
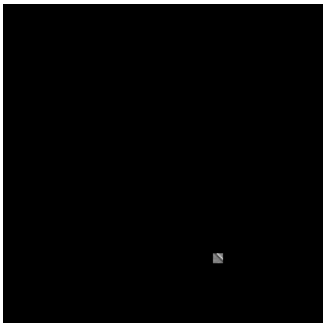
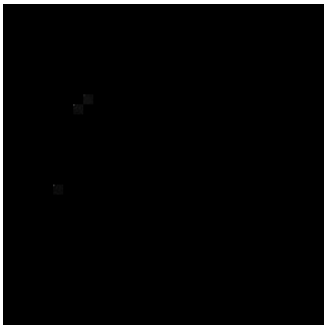
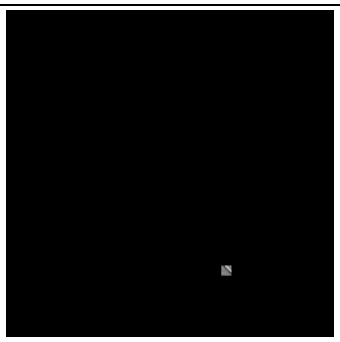
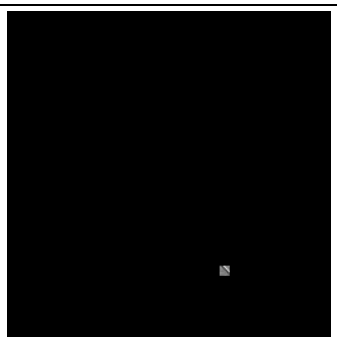
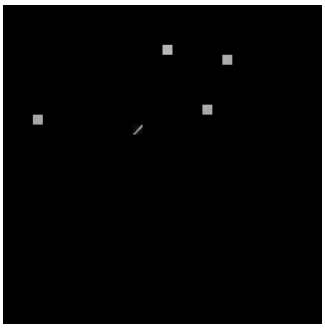
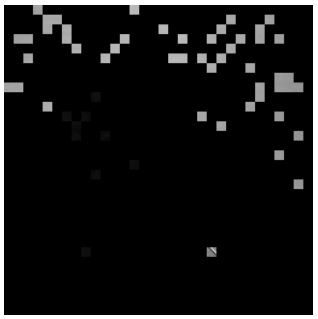
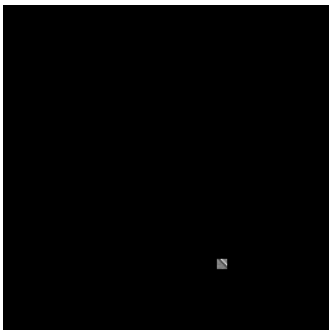
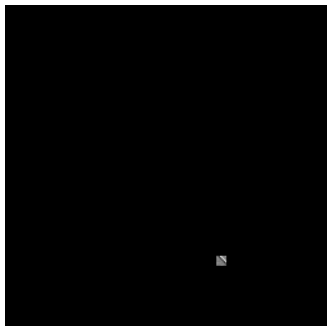
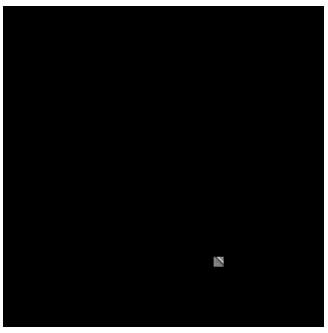
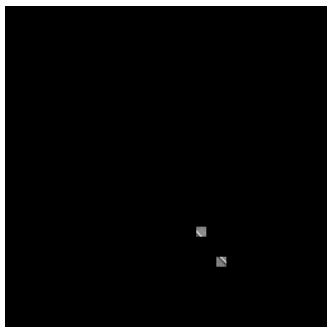
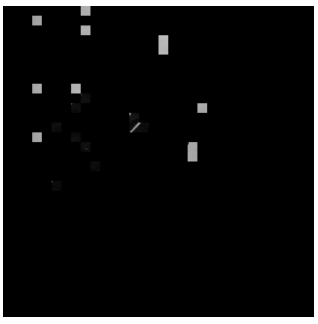
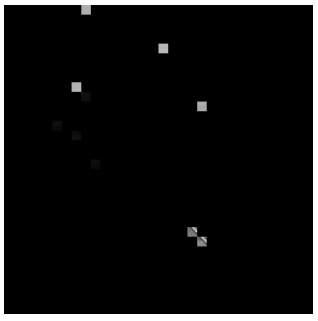
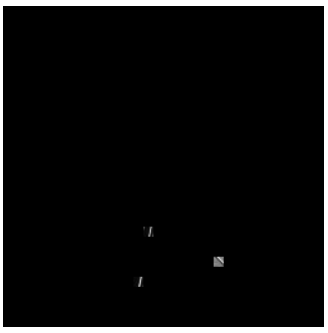
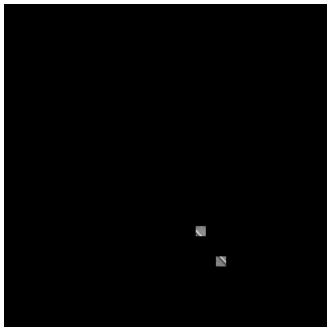
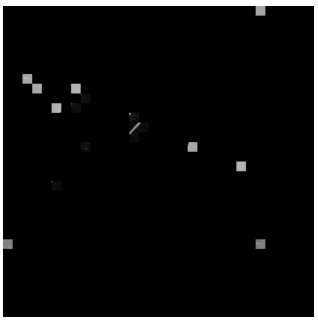
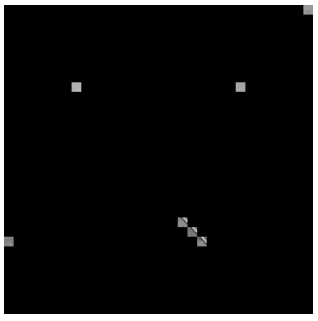
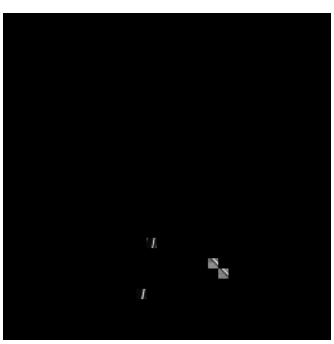
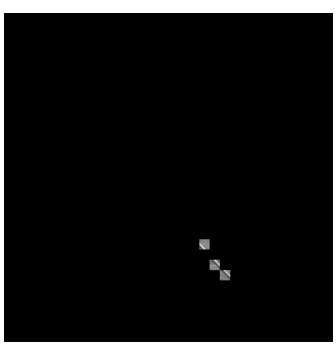
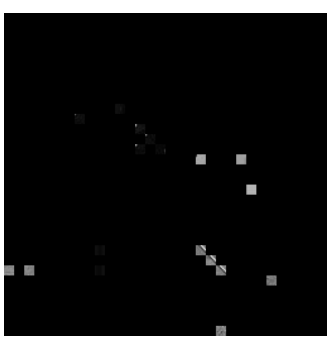
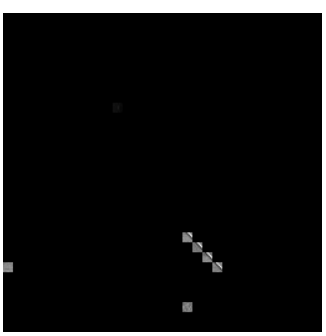
80				
70				
60				
50				
40				
30				

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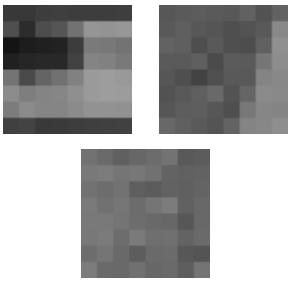
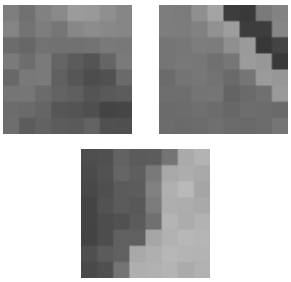
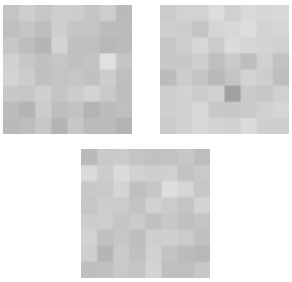
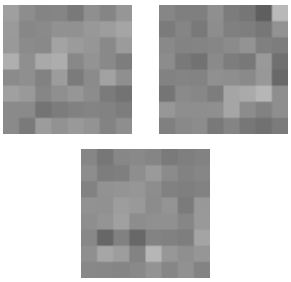
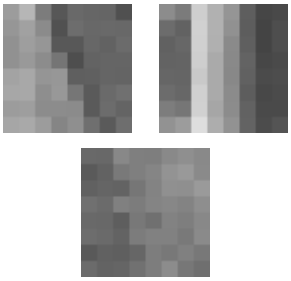
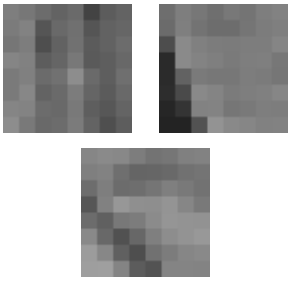
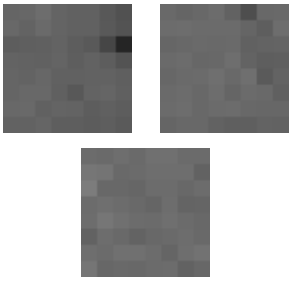
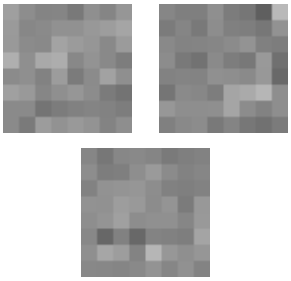
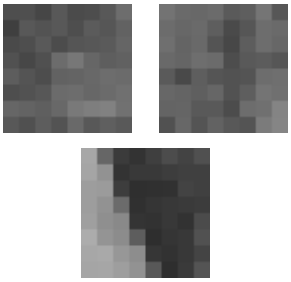
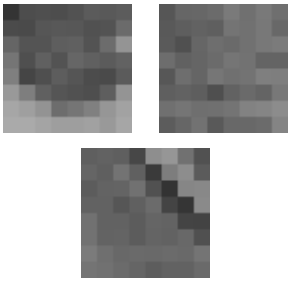
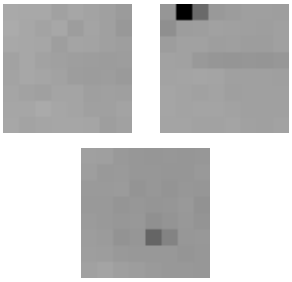
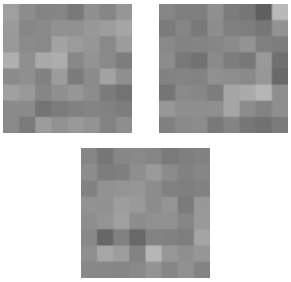
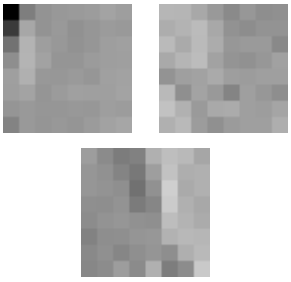
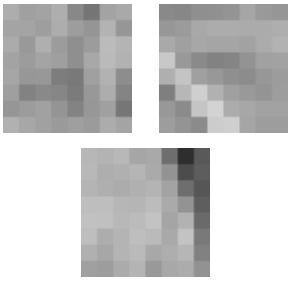
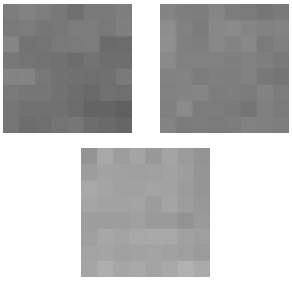
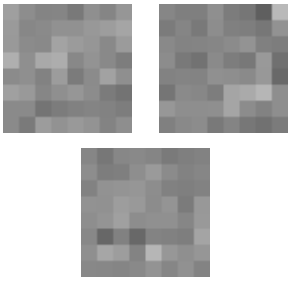
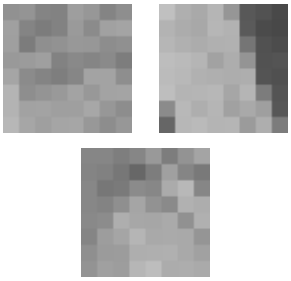
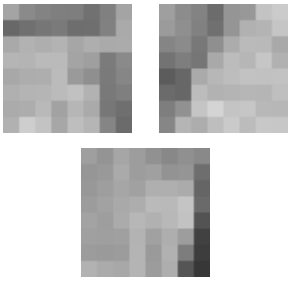
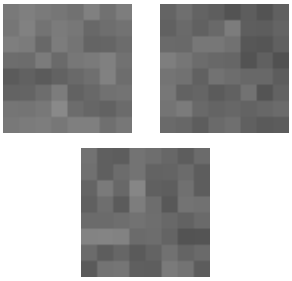
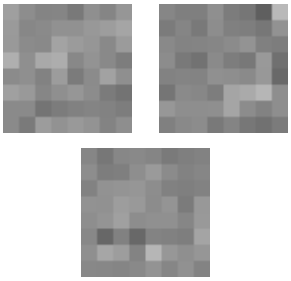
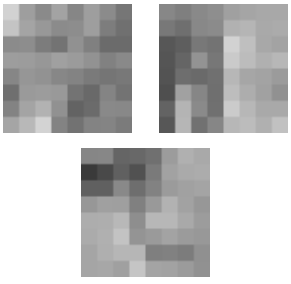
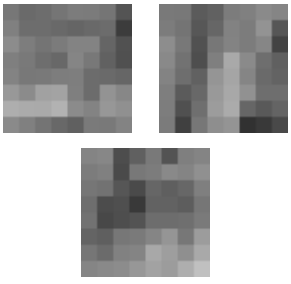
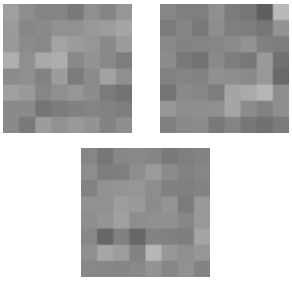
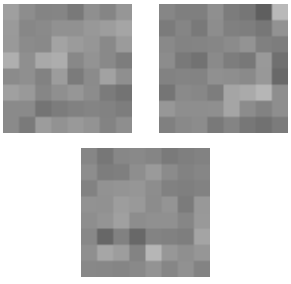
80				
70				
60				
50				
40				
30				

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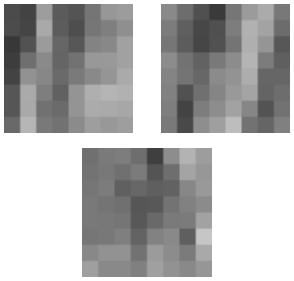
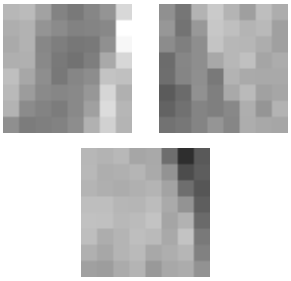
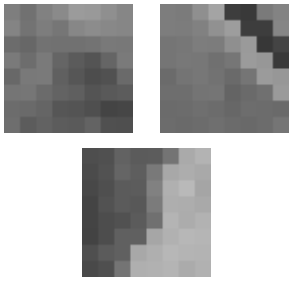
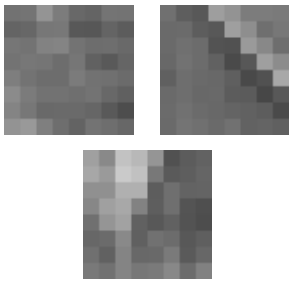
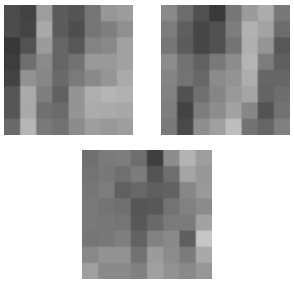
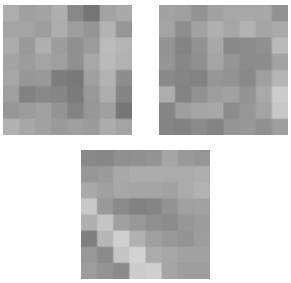
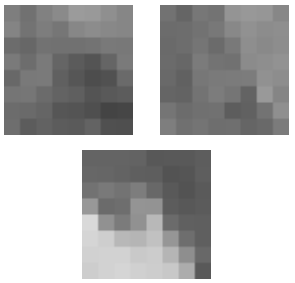
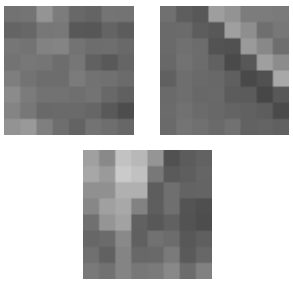
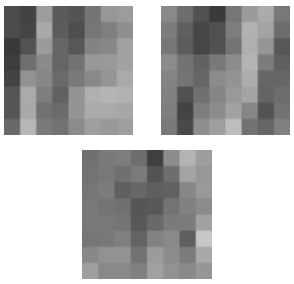
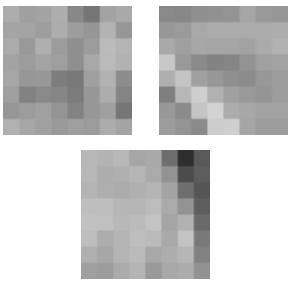
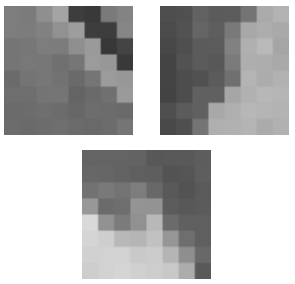
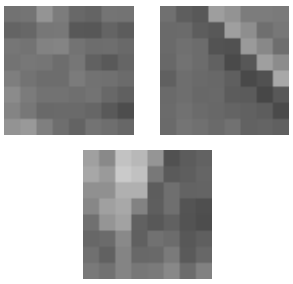
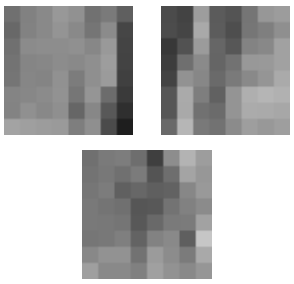
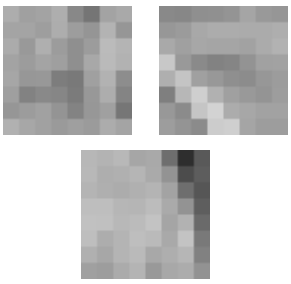
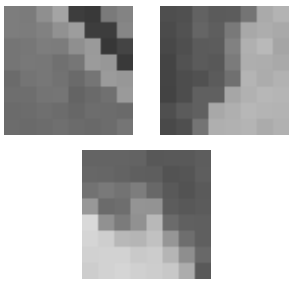
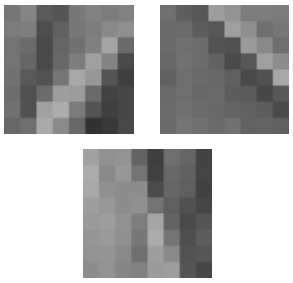
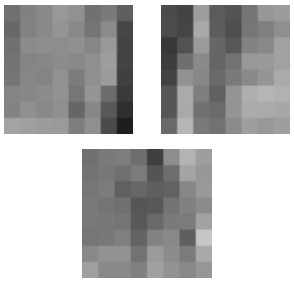
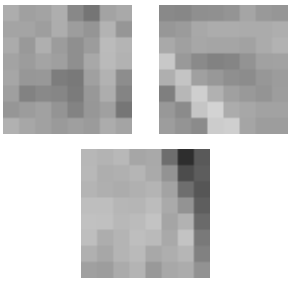
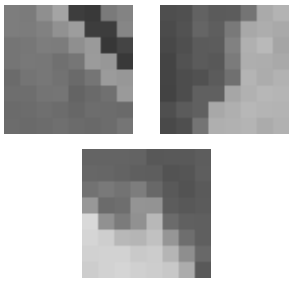
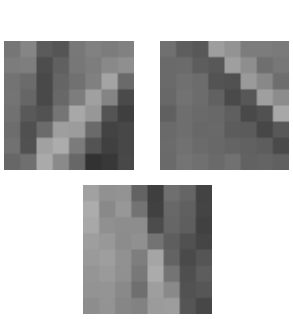
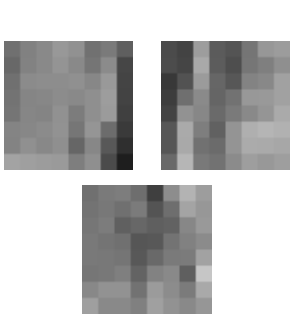
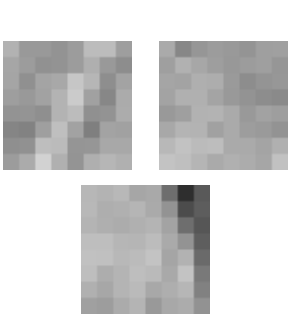
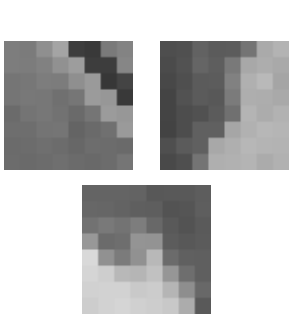
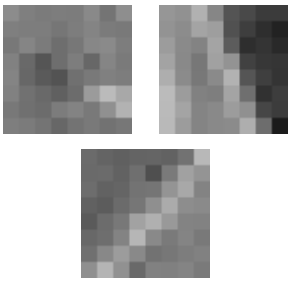
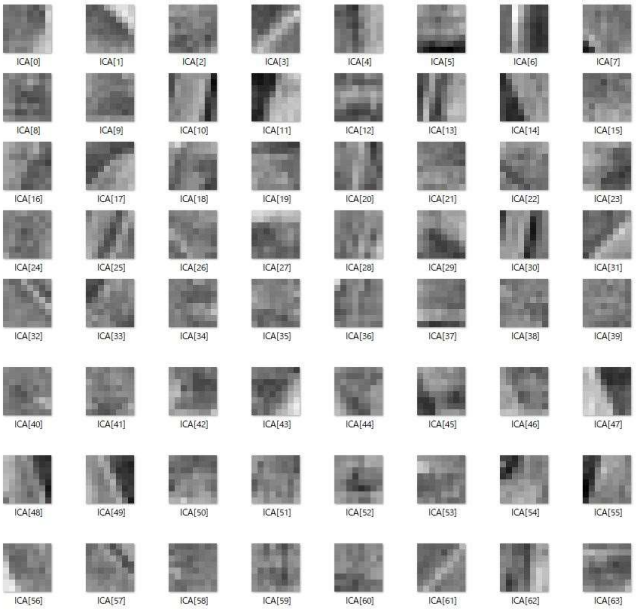
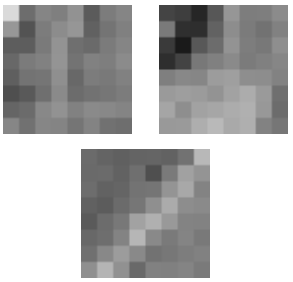
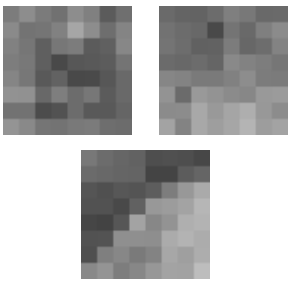
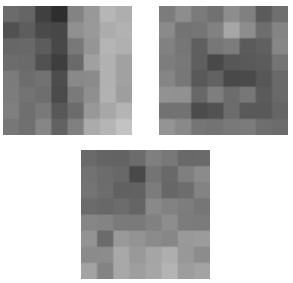
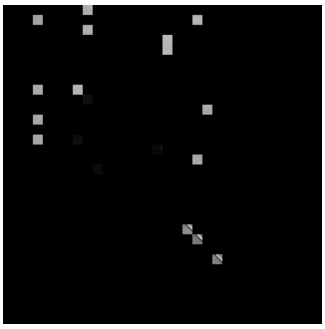
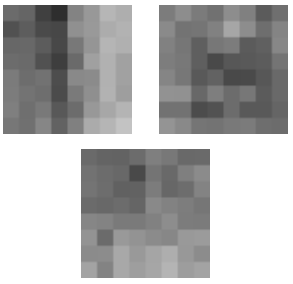
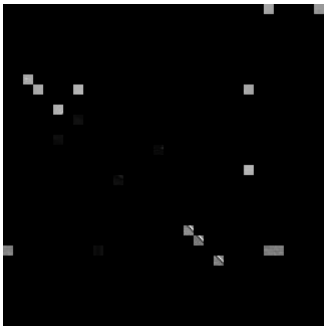
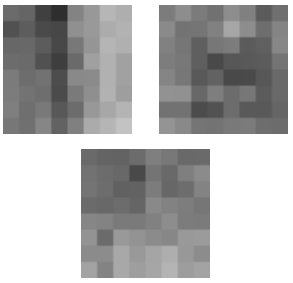
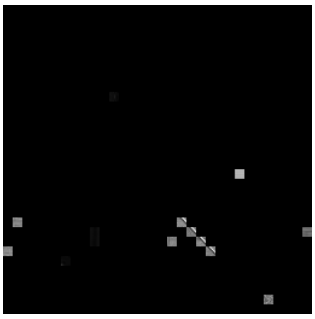
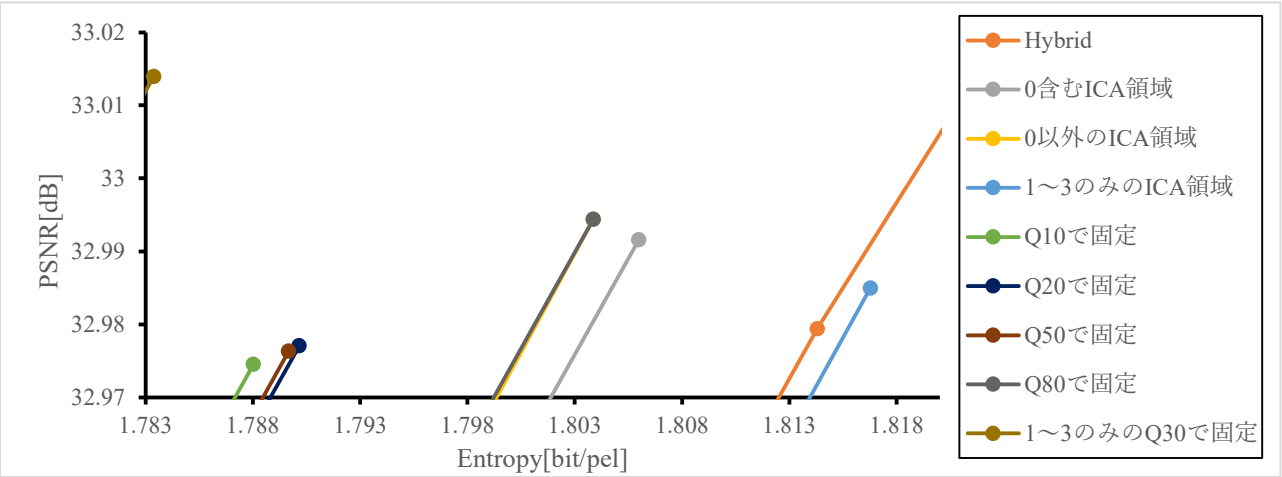
80	-			
70				
60				
50				
40				
30				

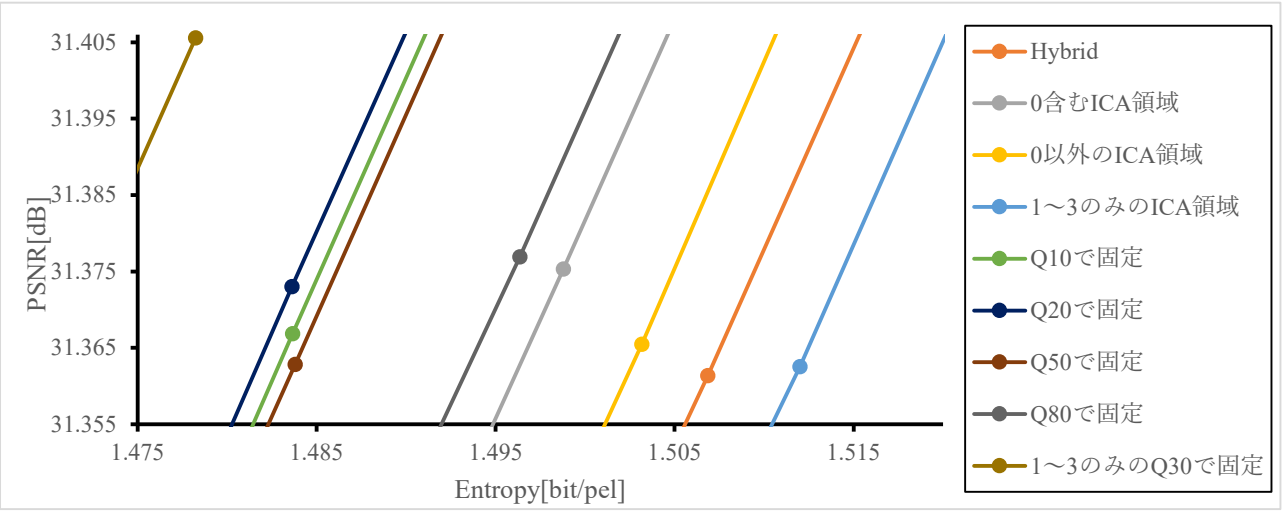
原画像の選出基底と適用領域

	選出基底	適用領域		
80				
70				
60				
50				
40				
30				

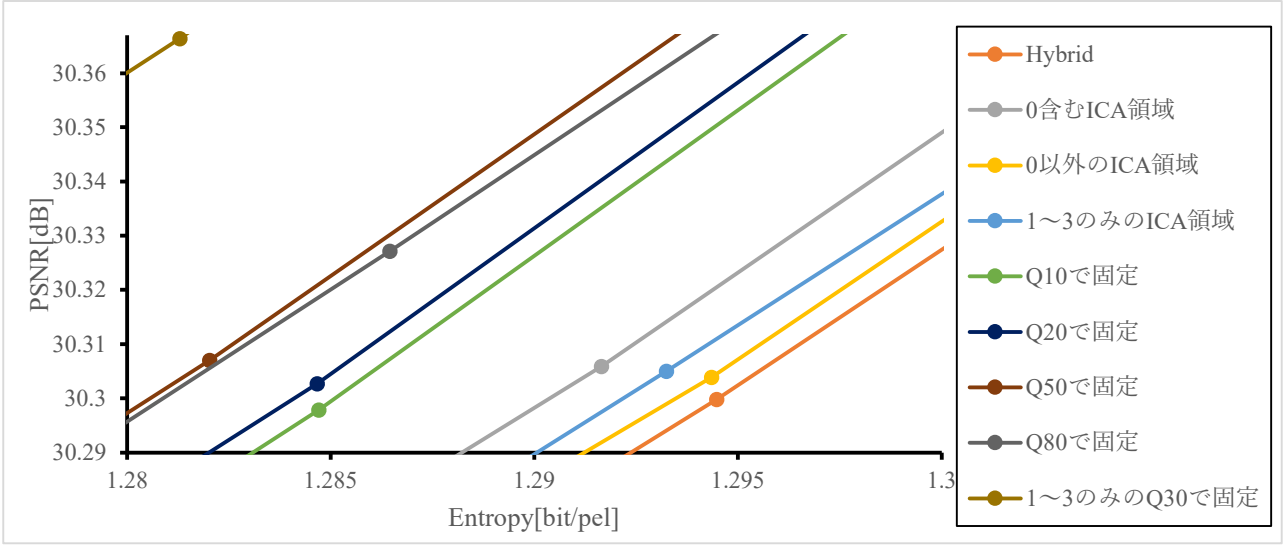
- 符号化性能（PSNR 対 Entropy）の詳細（Cameraman）



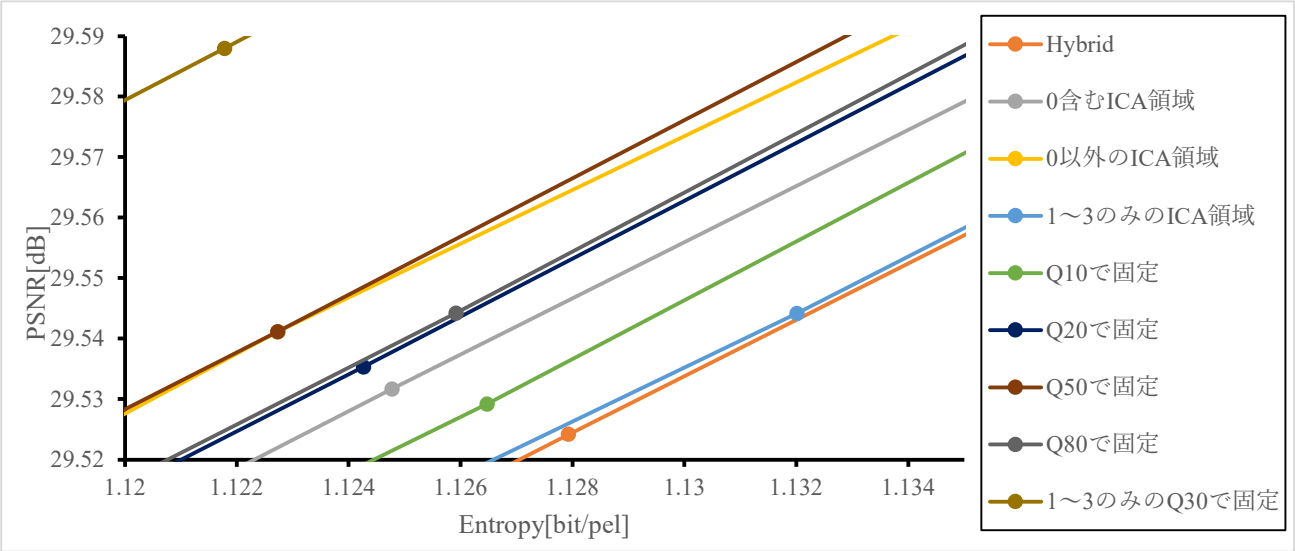
Q80



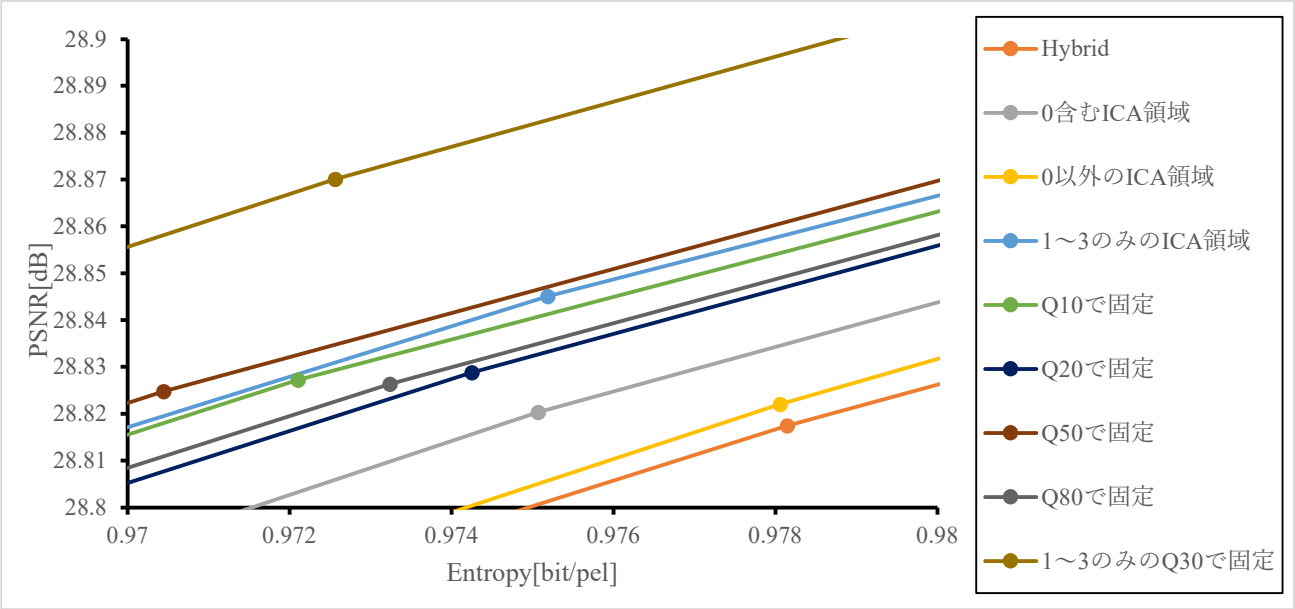
Q70



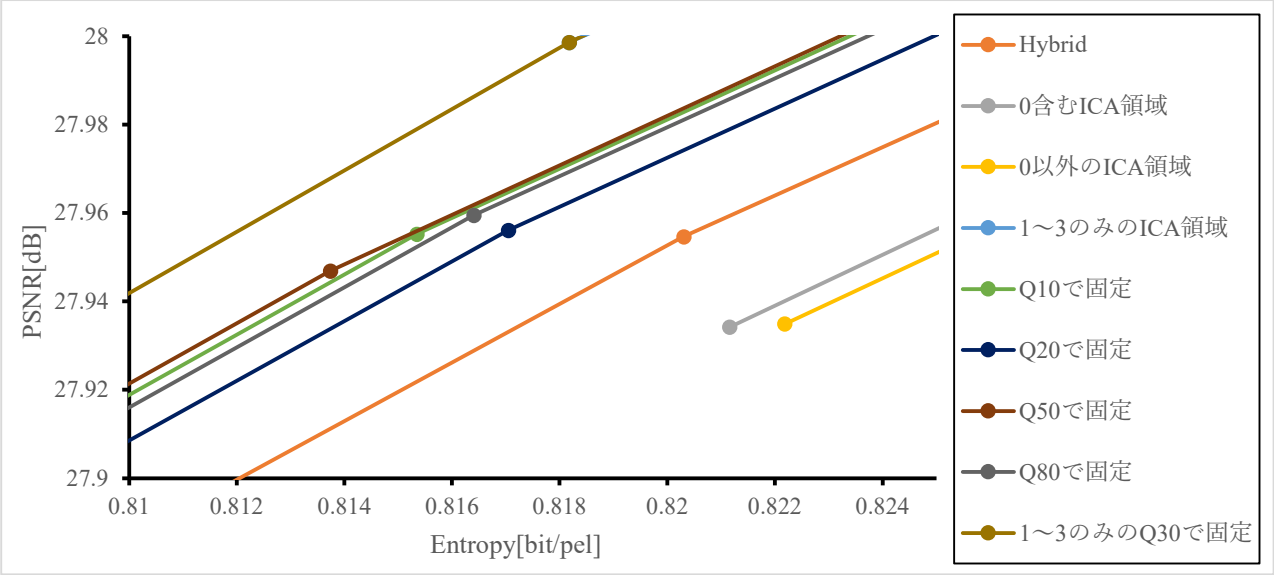
Q60


29.59
29.58
29.57
29.56
29.55
29.54
29.53
29.52
PSNR[dB]
1.12
1.122
1.124
1.126
1.128
1.13
1.132
1.134
Entropy[bit/pel]
Hybrid
0含むICA領域
0以外のICA領域
1～3のみのICA領域
Q10で固定
Q20で固定
Q50で固定
Q80で固定
1～3のみのQ30で固定

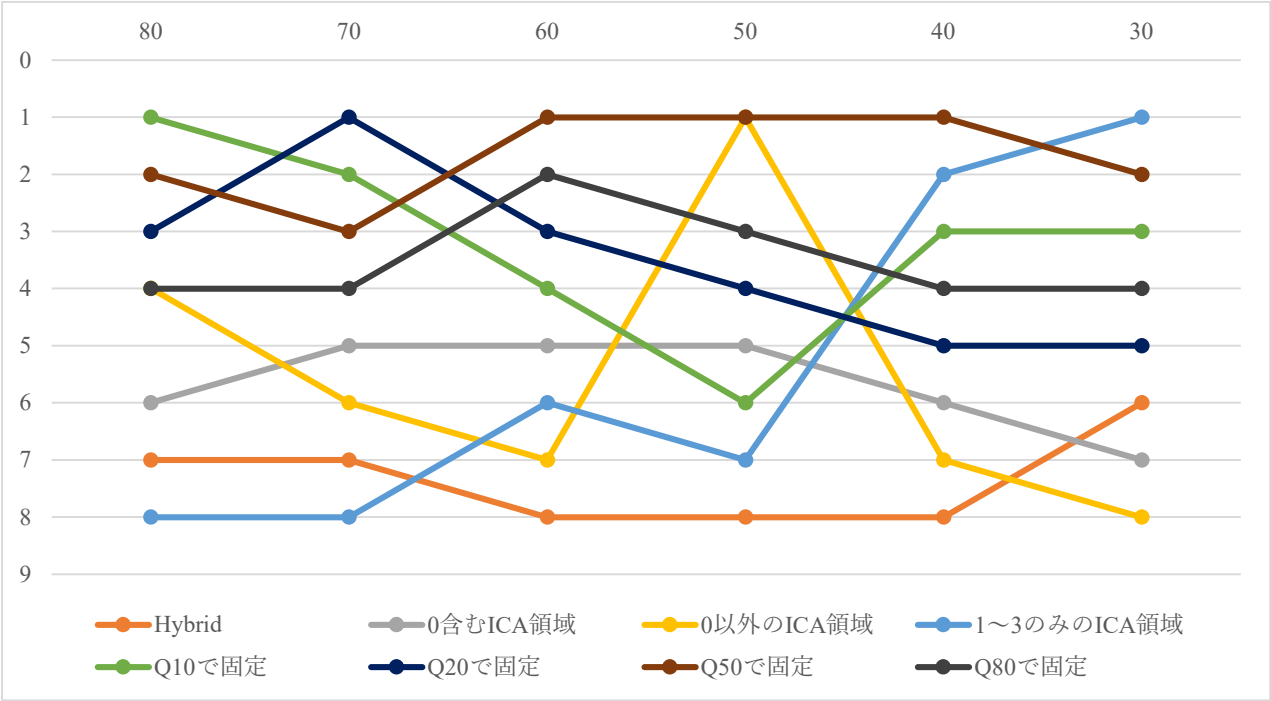
Q50


28.9
28.89
28.88
28.87
28.86
28.85
28.84
28.83
28.82
28.81
28.8
PSNR[dB]
0.97
0.972
0.974
0.976
0.978
0.98
Entropy[bit/pel]
Hybrid
0含むICA領域
0以外のICA領域
1～3のみのICA領域
Q10で固定
Q20で固定
Q50で固定
Q80で固定
1～3のみのQ30で固定

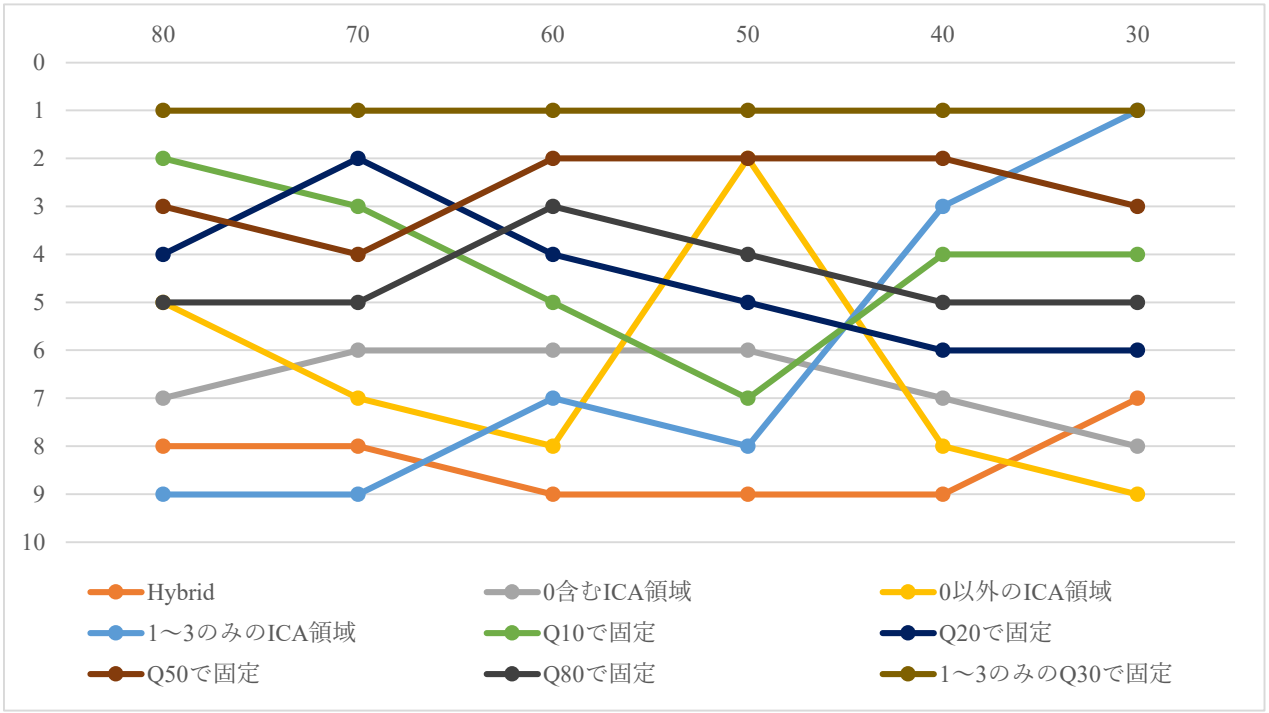
Q40


28
27.98
27.96
27.94
27.92
27.9
PSNR[dB]
0.81
0.812
0.814
0.816
0.818
0.82
0.822
0.824
Entropy[bit/pel]
Hybrid
0含むICA領域
0以外のICA領域
1～3のみのICA領域
Q10で固定
Q20で固定
Q50で固定
Q80で固定
1～3のみのQ30で固定

Q30



主観順位（符号化性能）



主観順位（符号化性能）

2022/08

夏休み中の進捗 #3

亀田ゼミ
M2　中田雄大

＊比較して分かったこと（Cameraman）

「適用ブロックについて」

・Barbara と同様に符号化性能が近い手法同士の適用領域の特徴は似ている.

・

「選出基底について」

・これまでと同様に，レートを固定した場合に選出される基底はどのレートでも大体同じ

・1〜3 の Q30 固定は，特徴的な領域が適用領域となっているのにも関わらず，選出された基底は関係ないような形状であり，性能の低い他の手法（Q10 固定）の選出基底の形状の方が適しているように感じる.

→上記の結果や入力画像に左右されることから選出基底はそこまで重要ではないのかもしれない．しかし，基底 1 個当たりの性能に対する影響は異なっているため，基底形状の比較により符号化性能との関係性が見えてくるかもしれない.

＊分かったことからの考察

・Q80 の比較から，なるべく多くの局所特徴を適用領域に含めることが符号化性能を改善するためのポイントなのかもしれないと推測.

・Barbara と同様に重要な特徴領域（カメラの三脚部分）が存在し，それが適用領域になるほど符号化性能が大きく改善されている．また，1~3 の Q30 固定では同じような領域がすべてのレートで適用領域となっており，どの手法よりも符号化性能が改善されていることから，原画像の重要な領域はどのレートでも共通であると考えられる.

＊追加調査したほうが良さげなこと

・領域を手動で絞り込み，基底を作成した場合の符号化性能を確認したい.（Air 既述）