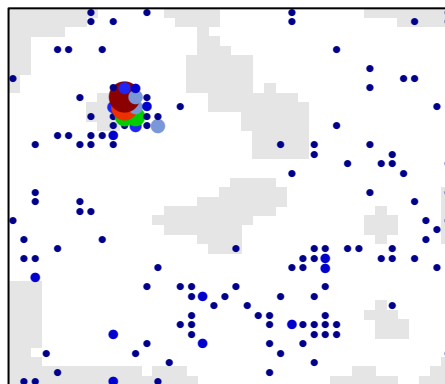
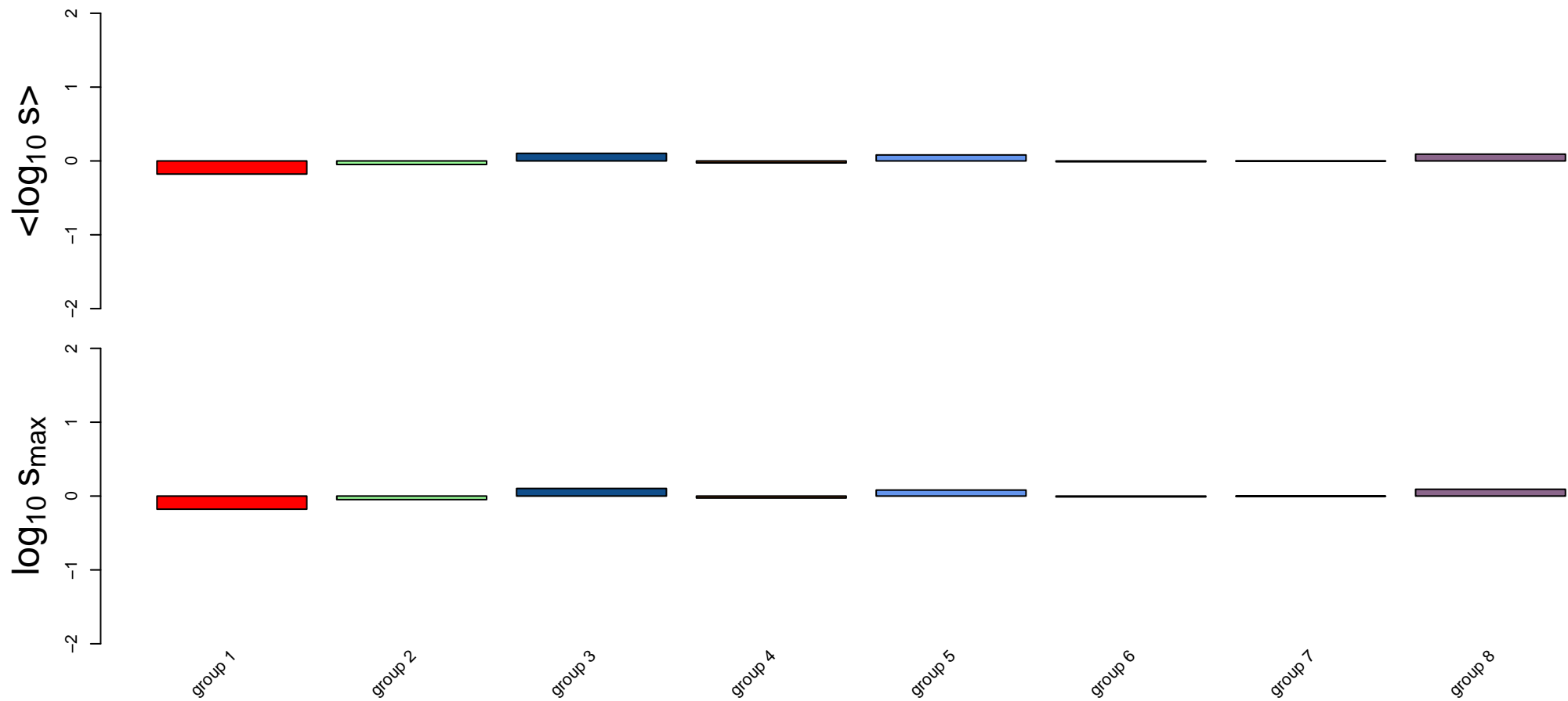
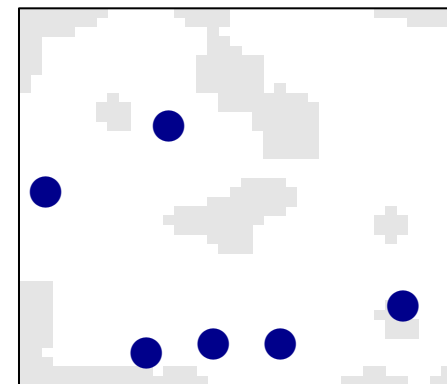


Oxidative phosphorylation

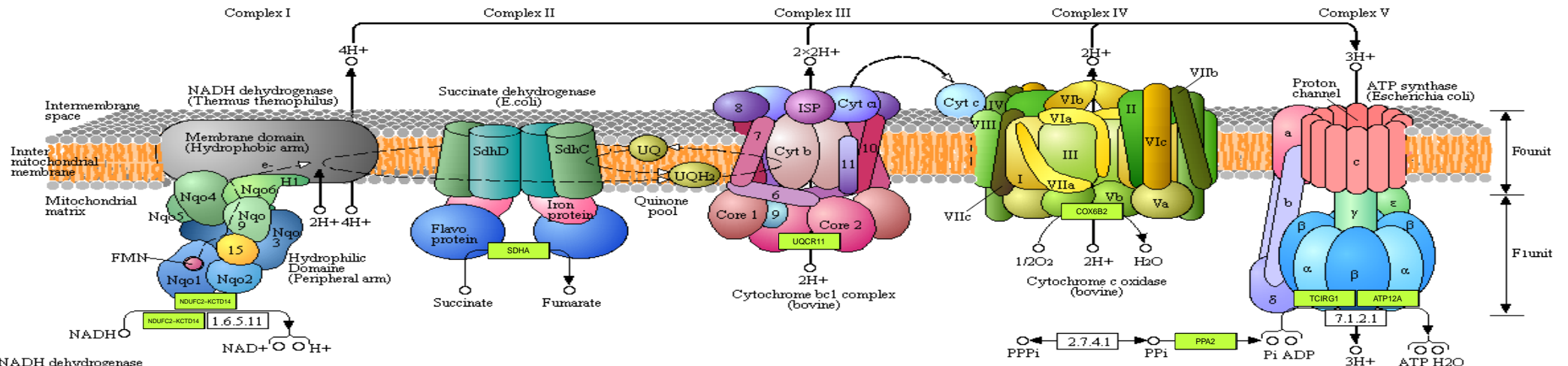
all genes



sink node genes



Oxidative phosphorylation genes with data



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6											
E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3							
B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN				
B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU	
E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFA11	NDUFA12	NDUFA13					
E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14					

Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB				
B/A	SdhC	SdhD	SdhA	SdhB	FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRC1	CYTB	CYC1										
E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11						

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	COX11	COX15	COX17
B/A	COX10	CyoD	CyoC	CyoB	CyoA												

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E		
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME	
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8	

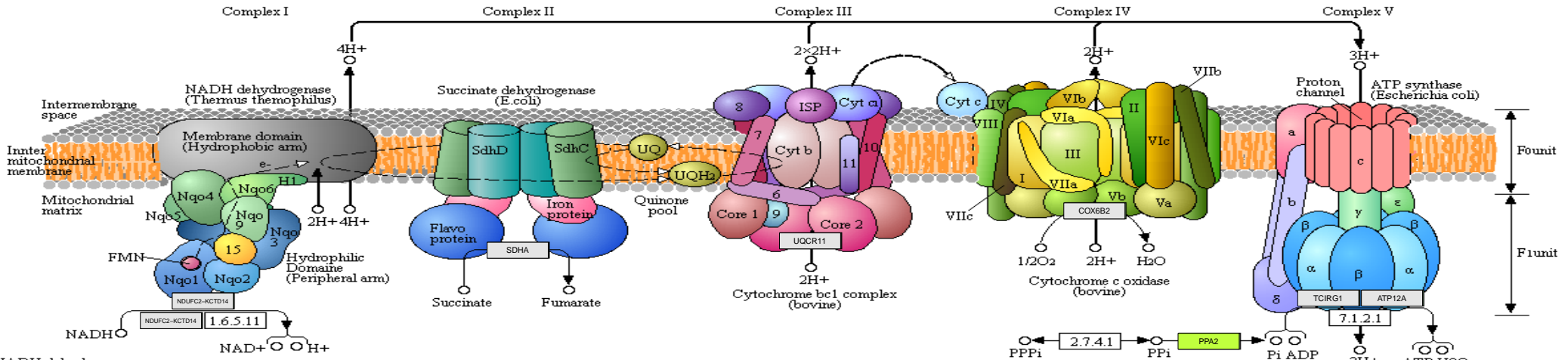
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1F1			

Oxidative phosphorylation sink nodes



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6										
E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3						
B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN			
B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13			
E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14				

Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB				
B/A	SdhC	SdhD	SdhA	SdhB	FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1				
E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	COX11	COX15	COX17
B/A	COX10	CyoD	CyoC	CyoB	CyoA	CoxD	CoxC	CoxA	CoxB	QoxD	QoxC	QoxB	QoxA				

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

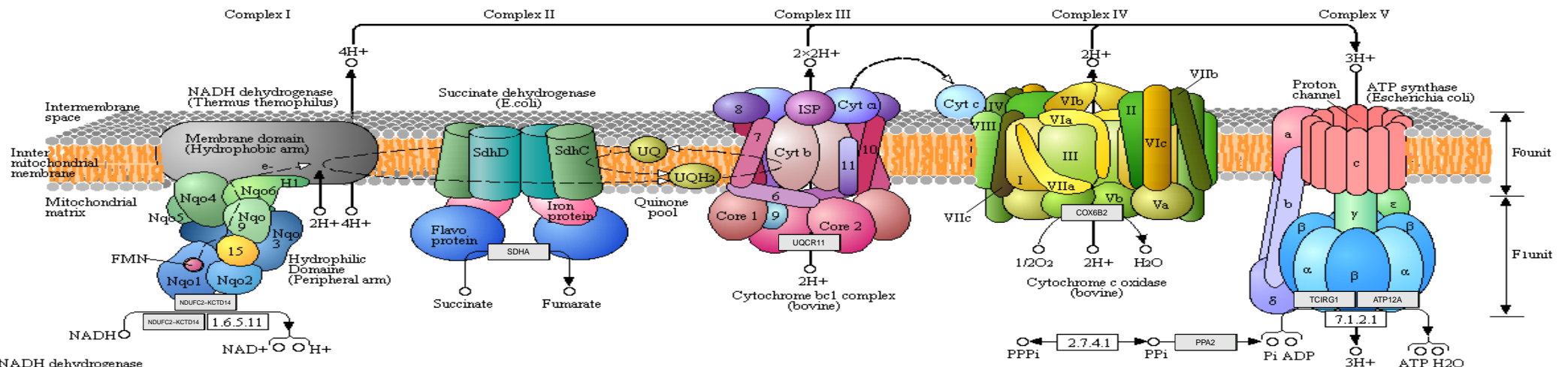
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P1			

Oxidative phosphorylation
influencer genes



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
---	------	------	------	------

B/A	SdhC	SdhD	SdhA	SdhB	FrdA	FrdB	FrdC	FrdD
-----	------	------	------	------	------	------	------	------

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
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Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA	CoxD	CoxC	CoxA	CoxB	QoxD	QoxC	QoxB	QoxA
-----	-------	------	------	------	------	------	------	------	------	------	------	------	------

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

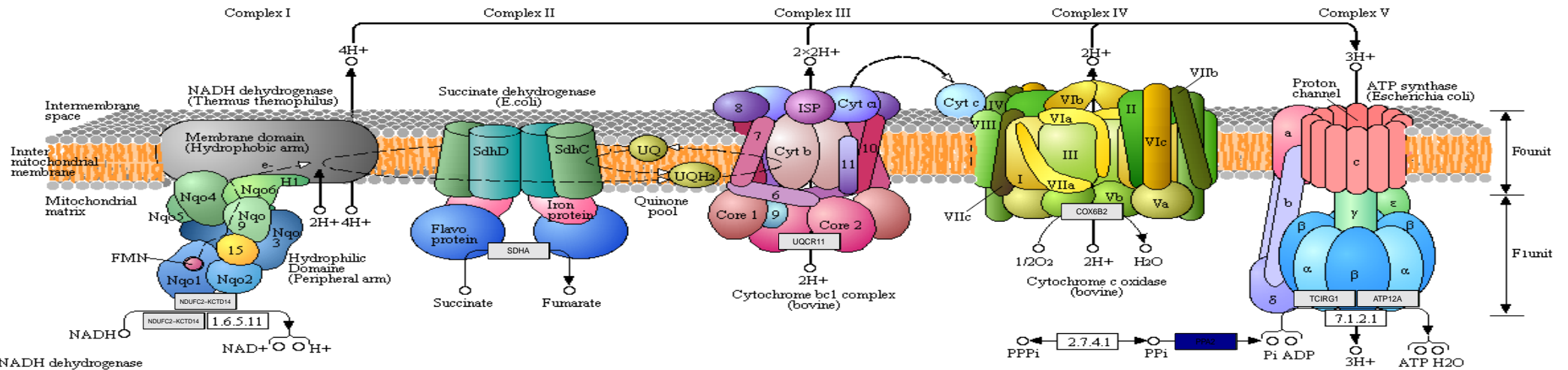
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1F1			

Oxidative phosphorylation group 1



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
---	------	------	------	------

B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
---	--------	--------	-------	-------	-------	---------	---------

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
---	-------	------	------	------	--------	-------	-------	--------	--------	-------	--------	-------	-------	-------	-------	-------	-------	-------

B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

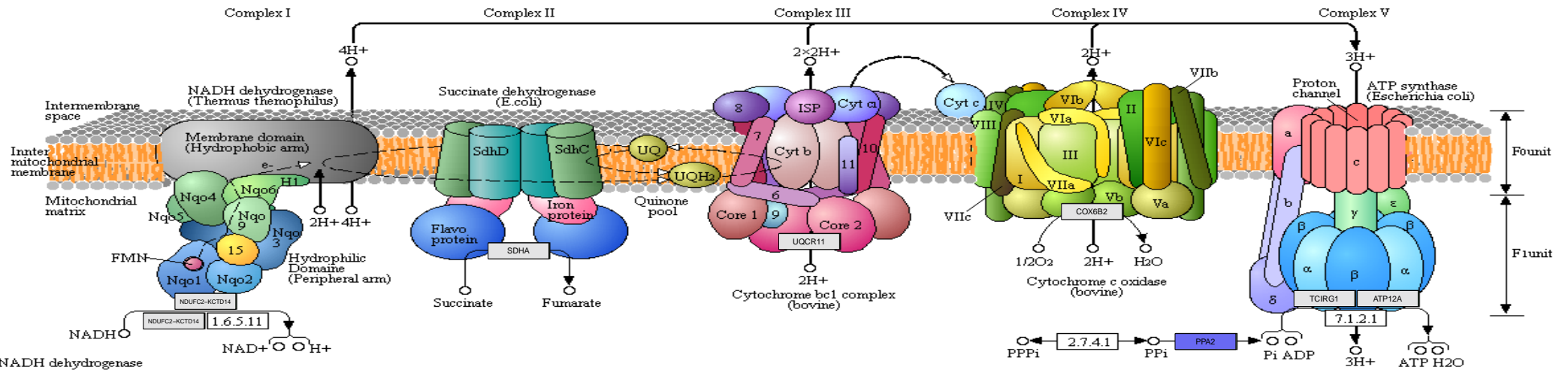
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TC1RG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			

Oxidative phosphorylation group 2



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
---	------	------	------	------

B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
---	--------	--------	-------	-------	-------	---------	---------

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

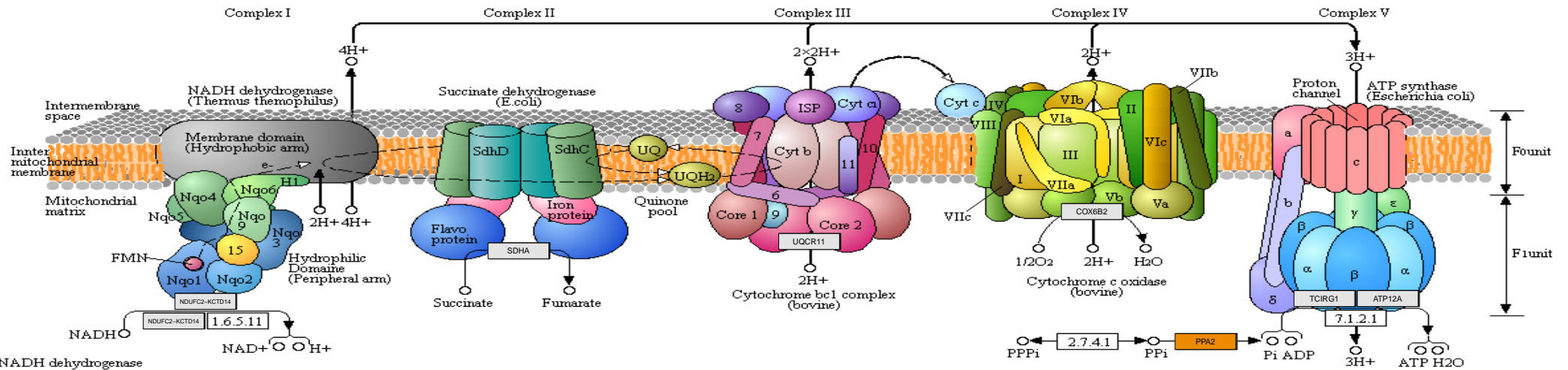
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6P1			

Oxidative phosphorylation group 3



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------

B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
---	------	------	------	------

B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
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Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX411	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

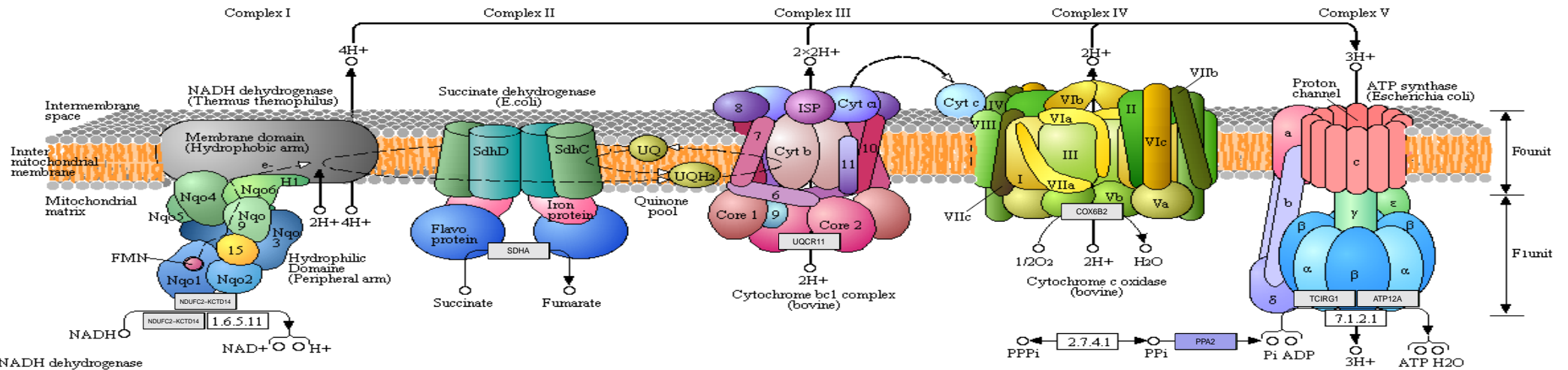
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			

Oxidative phosphorylation group 4



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------

B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
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B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1				
E	UQCRC1	UQCRC2	UQCRLH	UQCRB	UQCRCQ	UQCRI0	UQCRI1

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

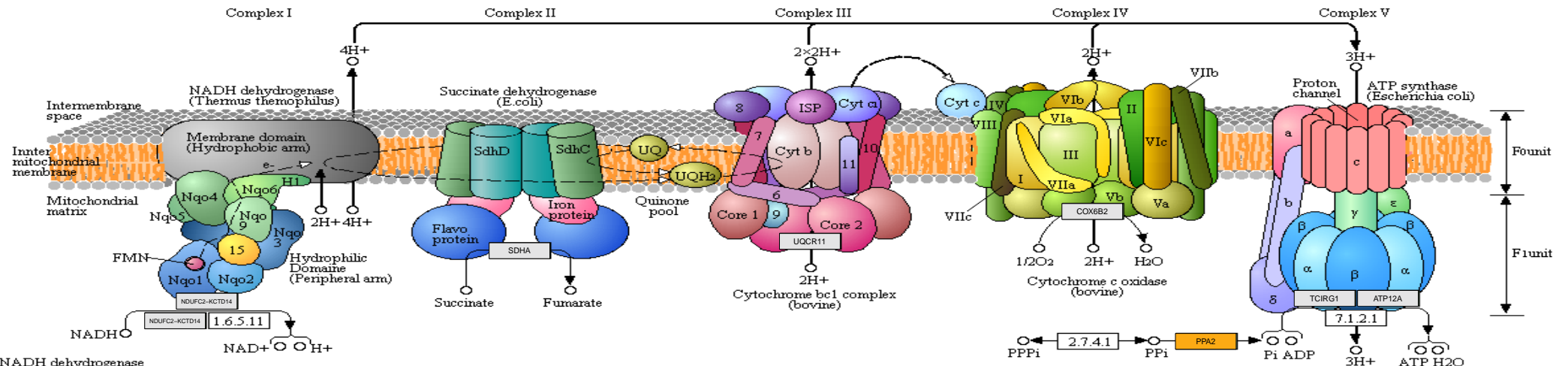
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			

Oxidative phosphorylation group 5



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFAB1	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
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B/A	SdhC	SdhD	SdhA	SdhB	FrdA	FrdB	FrdC	FrdD
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Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
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Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA	CoxD	CoxC	CoxA	CoxB	QoxD	QoxC	QoxB	QoxA
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Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

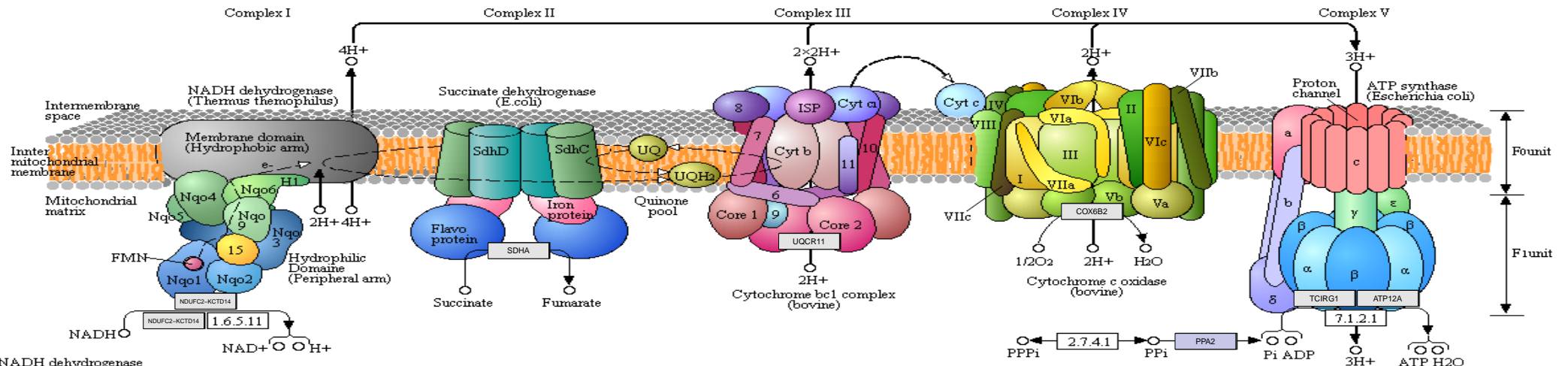
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TC1RG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			

Oxidative phosphorylation group 6



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
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B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX4I1	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRLH	UQCRB	UQCRCQ	UQCRI0	UQCRI1
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Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

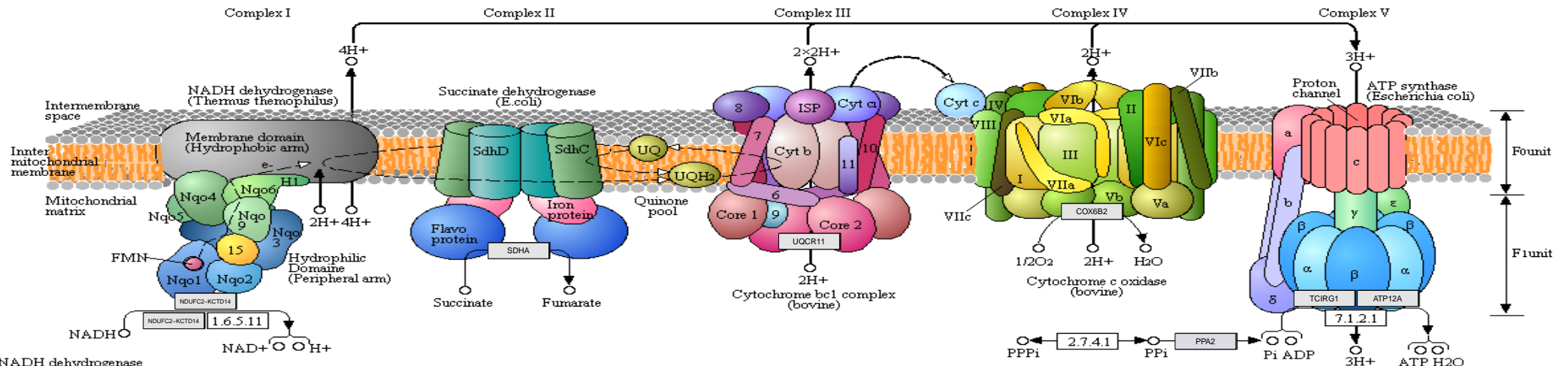
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1F1			

Oxidative phosphorylation group 7



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
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B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
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Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX411	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

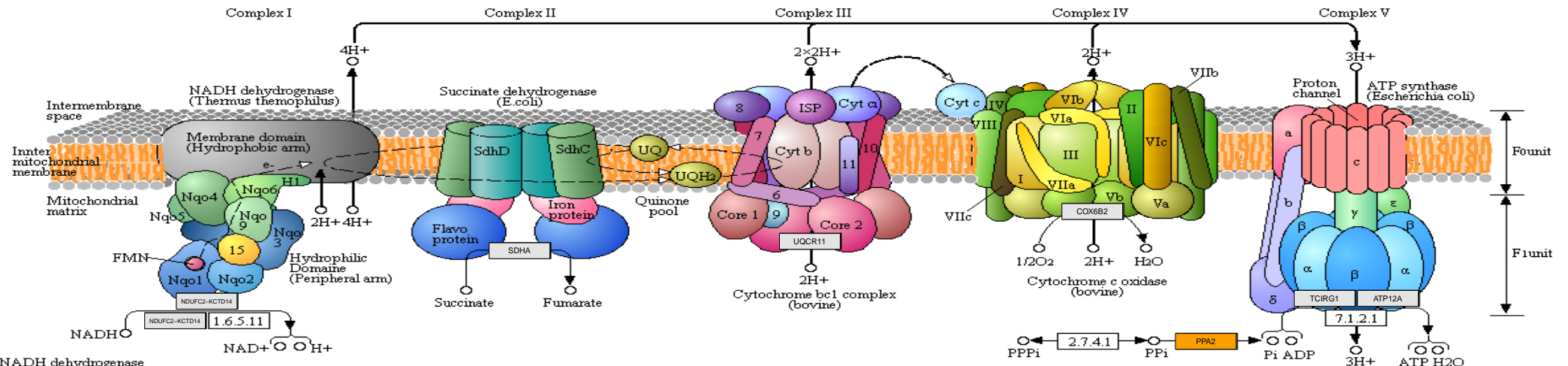
V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TCIRG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			

Oxidative phosphorylation group 8



NADH dehydrogenase

E	ND1	ND2	ND3	ND4	ND4L	ND5	ND6
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E	NDUFS1	NDUFS2	NDUFS3	NDUFS4	NDUFS5	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NDUFV3
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B/A	NuoA	NuoB	NuoC	NuoD	NuoE	NuoF	NuoG	NuoH	NuoI	NuoJ	NuoK	NuoL	NuoM	NuoN
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B/A	NdhC	NdhK	NdhJ	NdhH	NdhA	NdhI	NdhG	NdhE	NdhF	NdhD	NdhB	NdhL	NdhM	NdhN	HoxE	HoxF	HoxU
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E	NDUFA1	NDUFA2	NDUFA3	NDUFA4	NDUFA5	NDUFA6	NDUFA7	NDUFA8	NDUFA9	NDUFA10	NDUFA11	NDUFA12	NDUFA13
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E	NDUFB1	NDUFB2	NDUFB3	NDUFB4	NDUFB5	NDUFB6	NDUFB7	NDUFB8	NDUFB9	NDUFB10	NDUFB11	NDUFC1	NDUFC2-KCTD14
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Succinate dehydrogenase / Fumarate reductase

E	SDHC	SDHD	SDHA	SDHB
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B/A	SdhC	SdhD	SdhA	SdhB		
			FrdA	FrdB	FrdC	FrdD

Cytochrome c reductase

E/B/A	UQCRF51	CYTB	CYC1
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E	UQCRC1	UQCRC2	UQCRL	UQCRB	UQCRC	UQCRC10	UQCRC11
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Cytochrome c oxidase

E	COX10	COX3	COX1	COX2	COX411	COX5A	COX5B	COX6A1	COX6B2	COX6C	COX7A1	COX7B	COX7C	COX8A	E/B/A	COX11	COX15	COX17
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B/A	COX10	CyoD	CyoC	CyoB	CyoA
		CoxD	CoxC	CoxA	CoxB
		QoxD	QoxC	QoxB	QoxA

Cytochrome c oxidase, cbb3-type

B	I	II	IV	III
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Cytochrome bd complex

B/A	CydA	CydB	CydX
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F-type ATPase (Bacteria)

alpha	beta	gamma	delta	epsilon
a	b	c		

F-type ATPase (Eukaryotes)

ATP5F1A	ATP5F1B	ATP5F1C	ATP5F1D	ATP5F1E	
ATP5PO	ATP6	ATP5PB	ATP5MC1	ATP5PD	ATP5ME
ATP5MF	ATP5MG	ATP5PF	j	k	ATP8

V/A-type ATPase (Bacteria, Archaea)

A	B	C	D	E	F	G/H
I	K					

V-type ATPase (Eukaryotes)

ATP6V1A	ATP6V1B1	ATP6V1C2	ATP6V1D	ATP6V1E1	ATP6V1F	ATP6V1G3	ATP6V1H
TC1RG1	ATP6V1C	ATP6V1D2	ATP6V1E2	ATP6V1P			