ScienceOnline
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drinks &
science workshop

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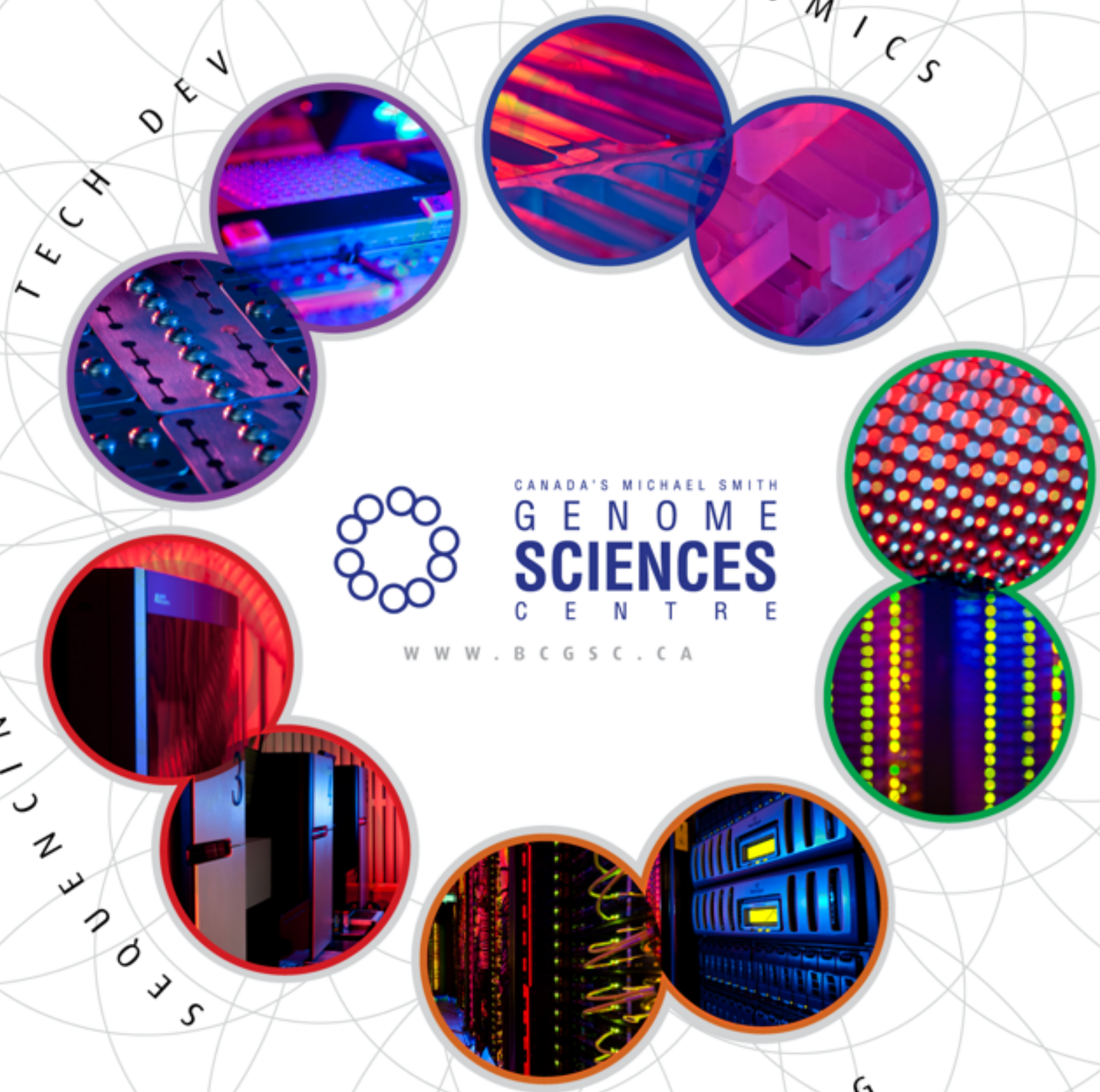


CANADA'S MICHAEL SMITH
GENOME
SCIENCES
CENTRE

WWW.BCGSC.CA

communicating science to scientists

INSPIRE.

martin krzywinski

mkweb.bcgsc.ca

Canada's Michael Smith Genome Sciences Center
BC Cancer Research Center

BE AS INTERESTING AS POSSIBLE

AS QUICKLY AS POSSIBLE

HTTP://WWW.YOUTUBE.COM/WATCH?V=0BOMKGXEDKE

WHAT MAKES MANY OF THESE PRESENTATIONS BAD?
WHICH ONES DO YOU LIKE THE MOST?
WHY?

ASSUME YOUR AUDIENCE TO BE

INTELLIGENT

BUT

EASILY BORED

DO NOT
MISTAKE
THE CAN
FOR
THE SOUP

YOUR SLIDES ARE
NOT
THE PRESENTATION

YOUR SLIDES ARE
A REPRESENTATION OF
THE PRESENTATION

YOUR SLIDES ARE
NOT THE ONLY SOURCE
OF INFORMATION

YOUR SLIDES ARE
THE FIRST SOURCE
OF INFORMATION

topic

narrative

delivery

topic

narrative

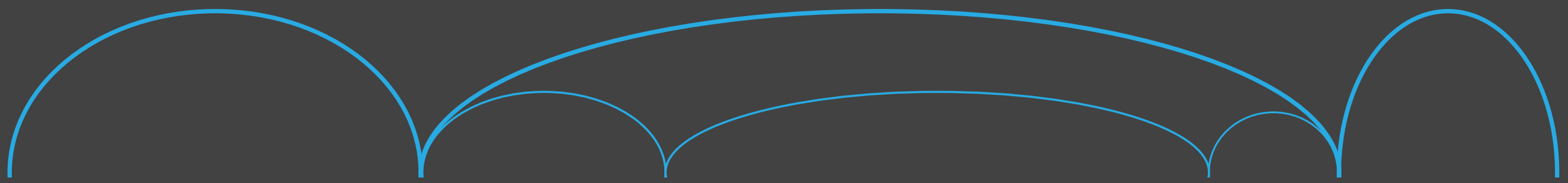
delivery

message

emphasis

detail

MAKE YOUR PRESENTATION EPISODIC



IMPORTANT! IMPORTANT! IMPORTANT!
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IMPORTANT! IMPORTANT! IMPORTANT!
IMPORTANT! IMPORTANT! IMPORTANT!

look here

NO

CLIPART · GRADIENTS · BULKY ARROWS

NO

READING · WALLS OF TEXT · DATA DUMPING

AVOID TIGHT PACKING AND ASYMMETRIES

calm

tense

ALIGN

TO

A

GRID

EXERCISE 1

IMPORTANCE OF CHOICE

You have more data and analysis than you can fit in a presentation. How do you choose what to show? Have a concise description of main points. Do not overinform.

Choose a narrative that naturally ends at your main conclusion. Touch on relevant (not all) supporting data. Give the audience a sense (not tedious proof) of the scale of complexity and connections in your data.

EXERCISE

1. For each typeface, choose exactly three characters that you feel best express the style, personality and spirit of the typeface. Your choices can be different for each.

2. If your choices are different for each typeface, select a minimal set of three characters that serve all three typefaces.

Justify your choices. What aspect of the typeface did your characters exemplify?

a b c d e f
g h i j k l
m n o p q r
s t u v w x
y z ! @ # $

A B C D E F
G H I J K L
M N O P Q R
S T U V W X
Y Z % & ? +
1 2 3 4 5 6
7 8 9 0 .

MINION

a b c d e f
g h i j k l
m n o p q r
s t u v w x
y z ! @ # $

A B C D E F
G H I J K L
M N O P Q R
S T U V W X
Y Z % & ? +
1 2 3 4 5 6
7 8 9 0 .

GILL SANS

a b c d e f
g h i j k l
m n o p q r
s t u v w x
y z ! @ # $

A B C D E F
G H I J K L
M N O P Q R
S T U V W X
Y Z % & ? +
1 2 3 4 5 6
7 8 9 0 .

FILOSOFIA

@SCIOVAN - Oct 2013

CASE STUDY 1

BRIDGETTE CLARKSTON

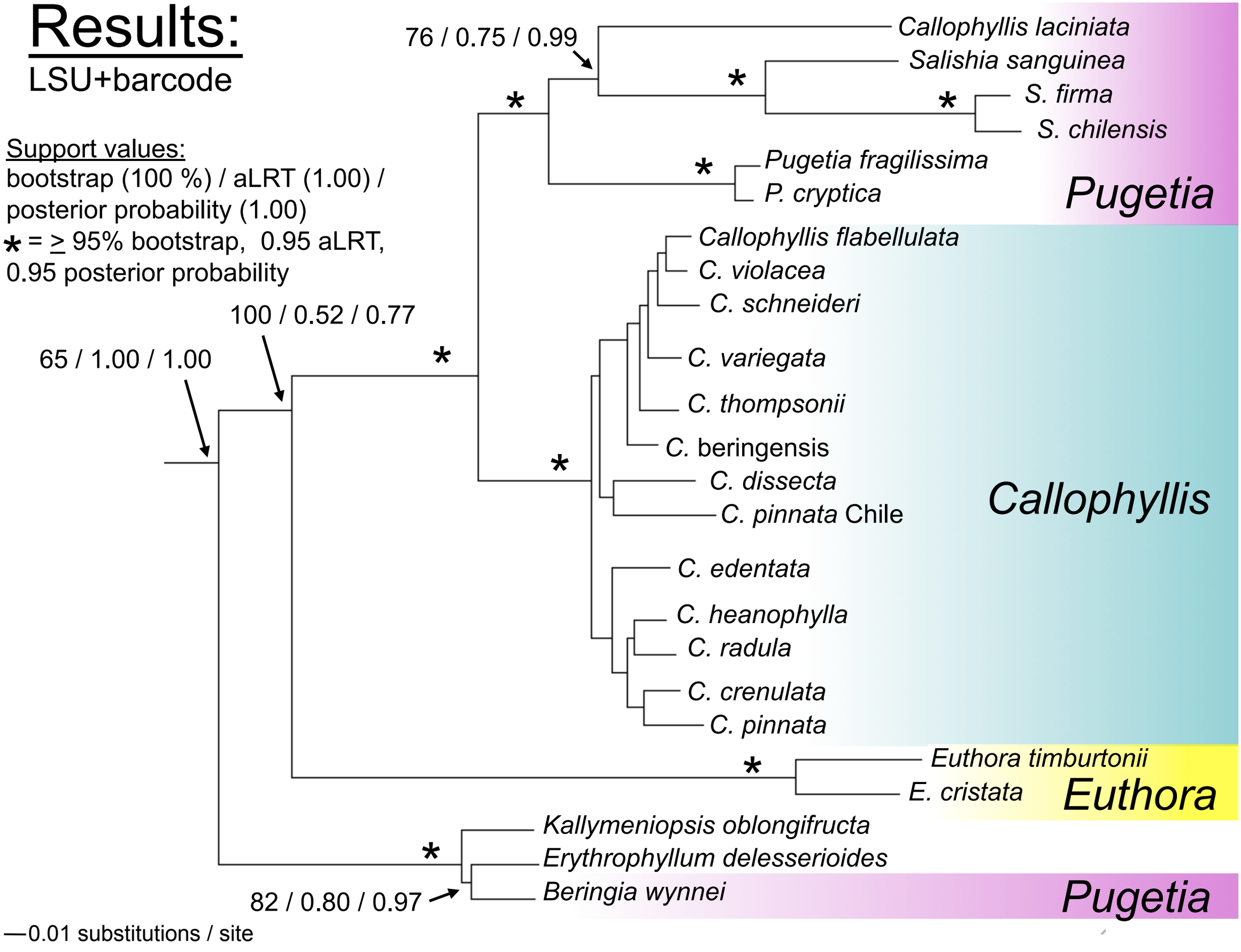
Kallymeniaceae in Canada

Genus	# Species Reported:
Euthora	1
Pugetia	2
Callophyllis	9
Erythrophyllum	1
Kallymeniopsis	1
Kallymenia	1
Hommersandia	1
Cirrulicarpus	1
Callocolax	1

Determining Relationships

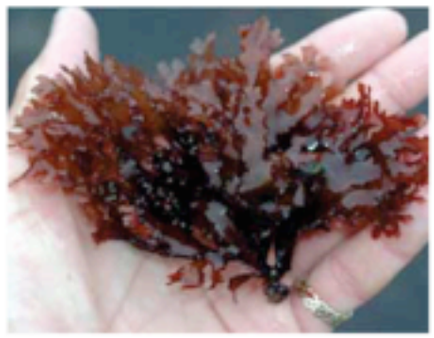
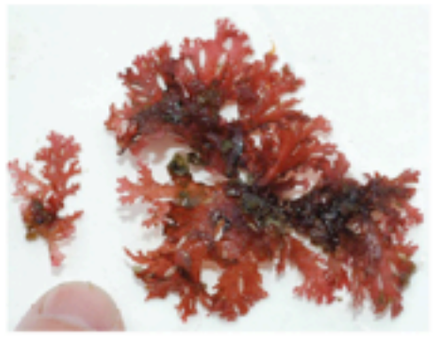
Results:

LSU+barcode



PHOTOS LOOK ALIKE TO NONSPECIALISTS—
FIX POSITION TO PROVIDE CONTINUITY

ACHIEVE EMPHASIS
WITH SPACING AND ALIGNMENT
INSTEAD OF COLOR

SPECIES		GENUS
2		Pugetia
9		Callophyllis
1		Kallymeniopsis
1		Euthora
1		Erythrophyllum

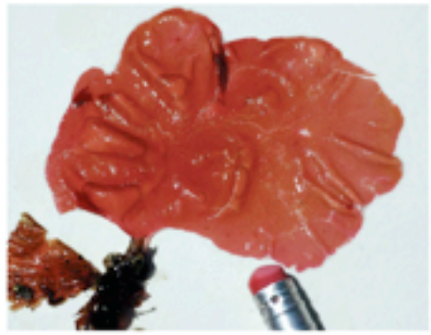
Kallymenia (1), Hommersandia (1), Cirrulicarpus (1), Callocolax (1)

PHYLOGENETIC RELATIONSHIP

SPECIES

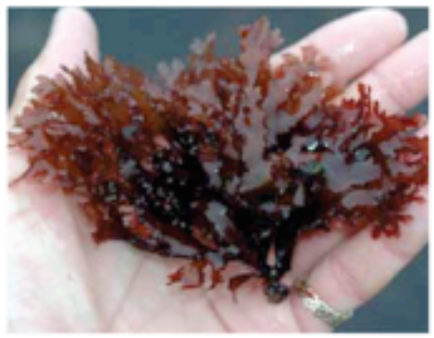
GENUS

2



Pugetia

9

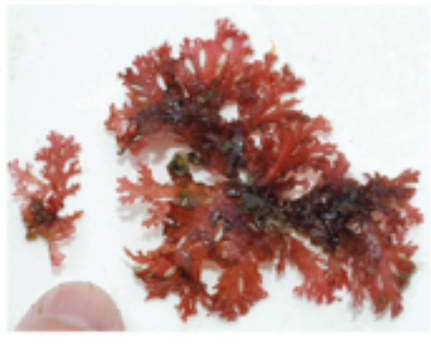


Callophyllis

1

Kallymeniopsis

1



Euthora

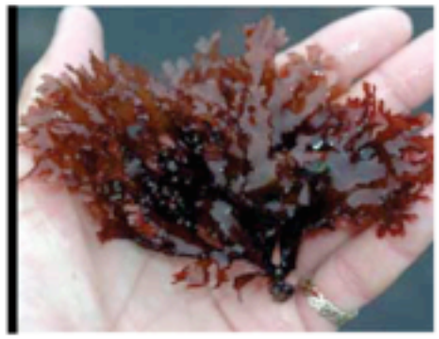
1

Erythrophyllum

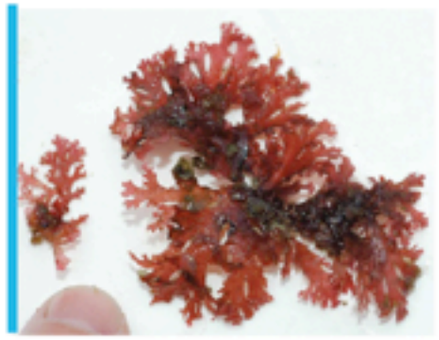
Kallymenia (1), Hommersandia (1), Cirrulicarpus (1), Callocolax (1)

GENUS

Pugetia



Callophyllis



Euthora

76 · 0.75 · 0.99

100 · 0.52 · 0.77

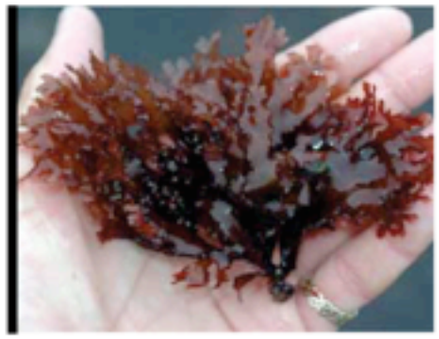
65 · 1.00 · 1.00

82 · 0.80 · 0.97

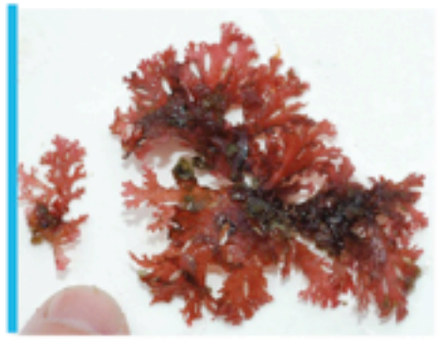
bootstrap aLRT posterior prob

GENUS

Pugetia



Callophyllis



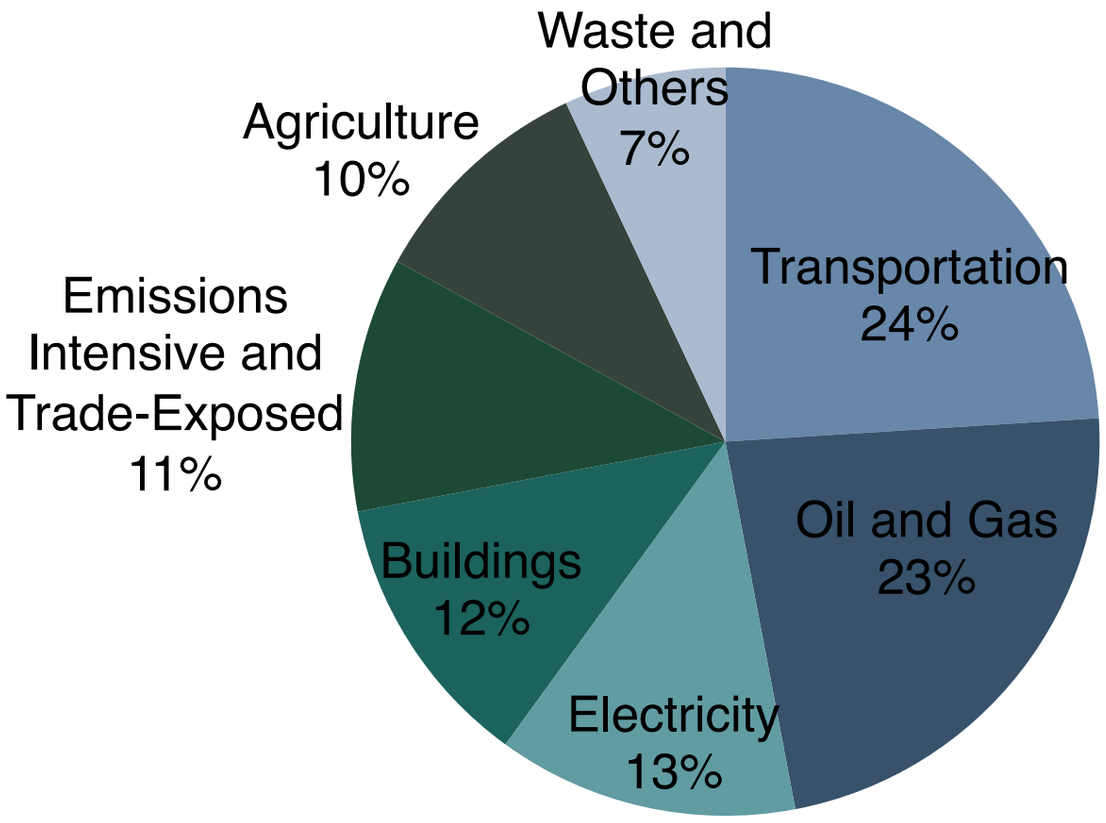
Euthora

- ≥ 95% · ≥ 0.95 · ≥ 0.95
- 0.01 substitutions / site

CASE STUDY 2

SUSAN VICKERS

Natural Gas Powered Vehicles



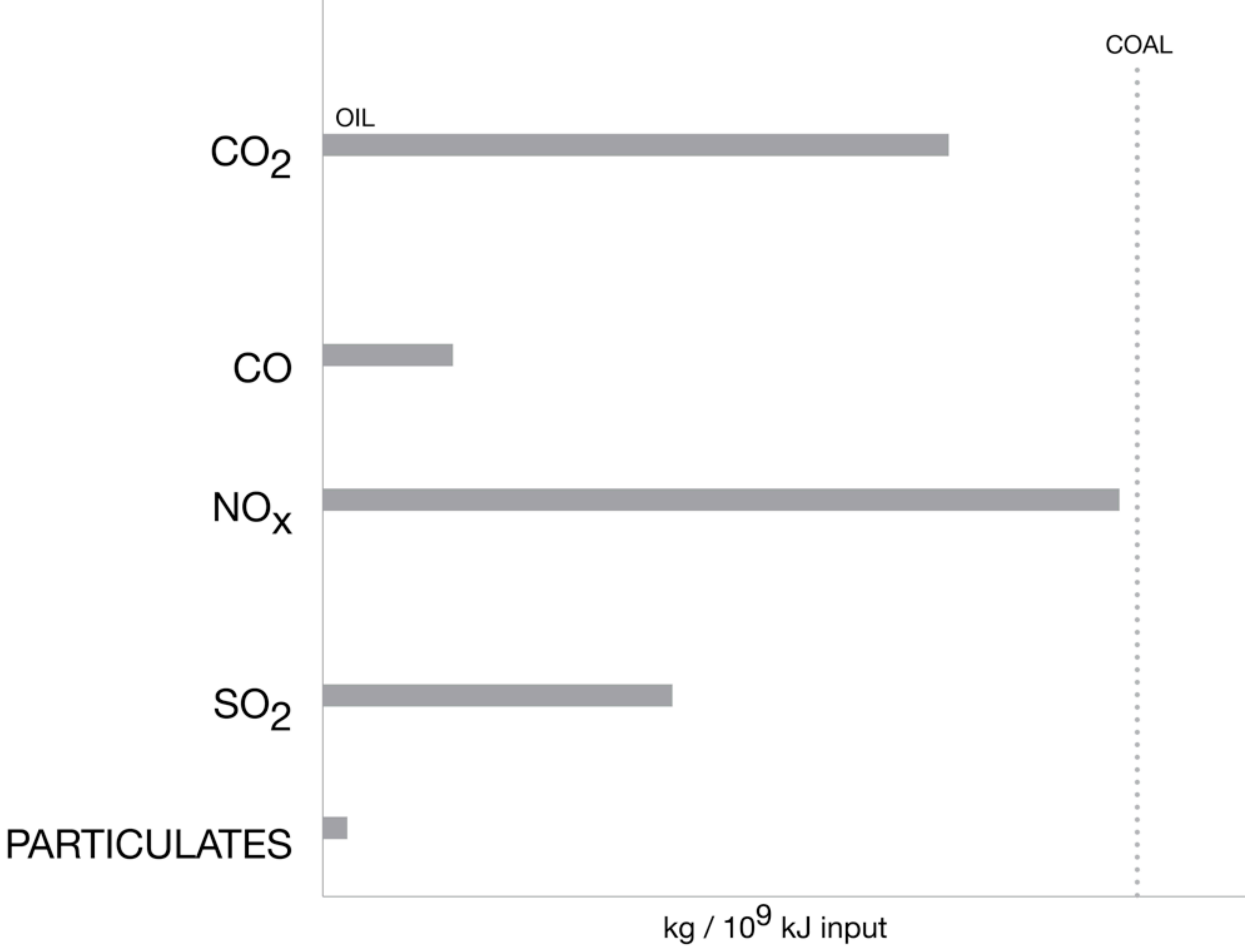
	Natural Gas	Oil	Coal	% Cleaner	
	(kg per Billion kJ of Energy Input)			Oil	Coal
Carbon Dioxide	50409	70659	89616	28.7%	43.7%
Carbon Monoxide	17	14	90	-20.0%	81.1%
Nitrogen Oxides	40	193	197	79.4%	79.8%
Sulfur Dioxide	<1	483	1117	99.1%	100.0%
Particulates	3	36	1182	92.1%	99.8%

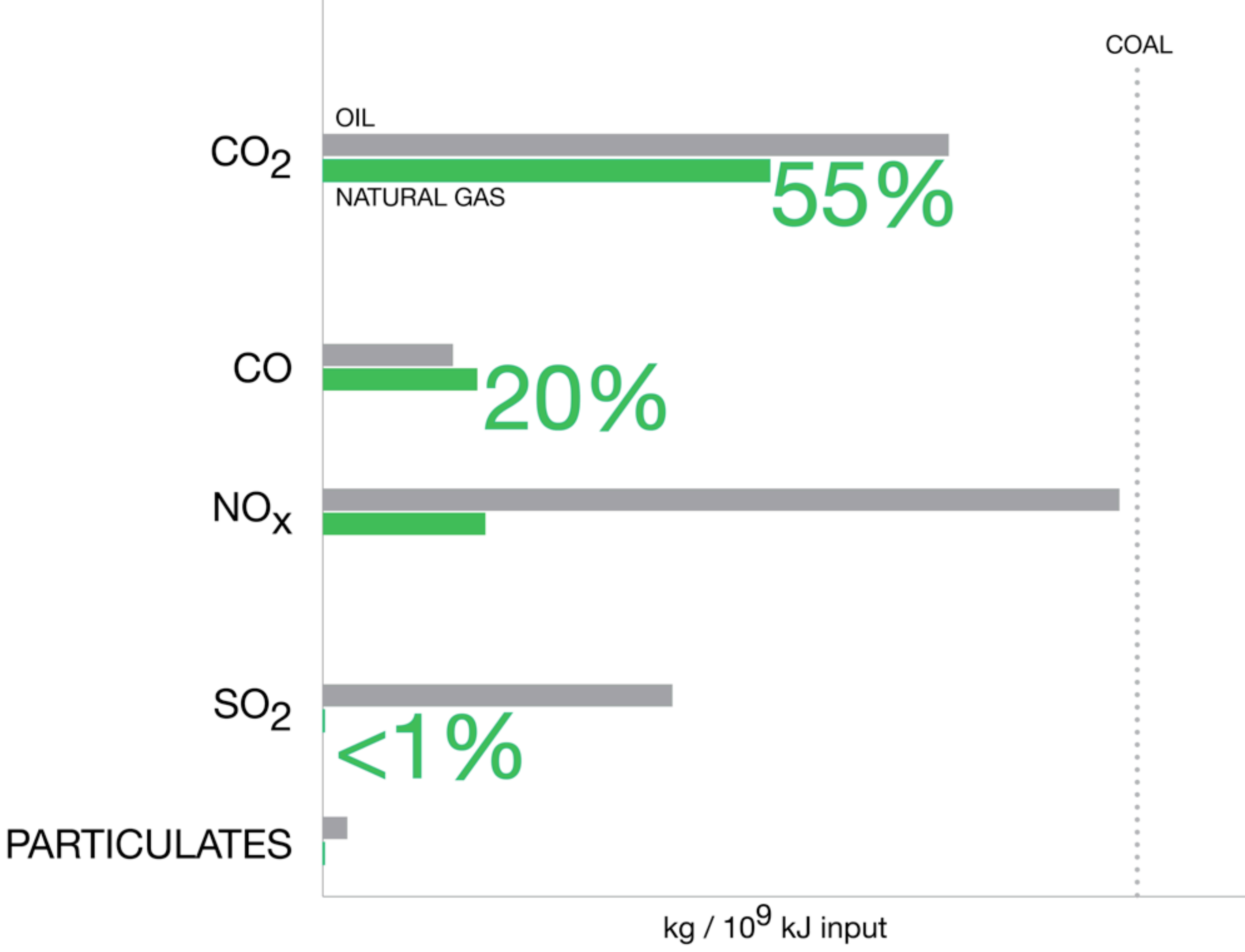
INTRODUCTION SLIDE BUSY—
MAIN POINT IS LOST

LAYER COMPLEX INFORMATION
ACROSS SEVERAL SLIDES

START WITH INTRIGUE OR A QUESTION,
IF POSSIBLE

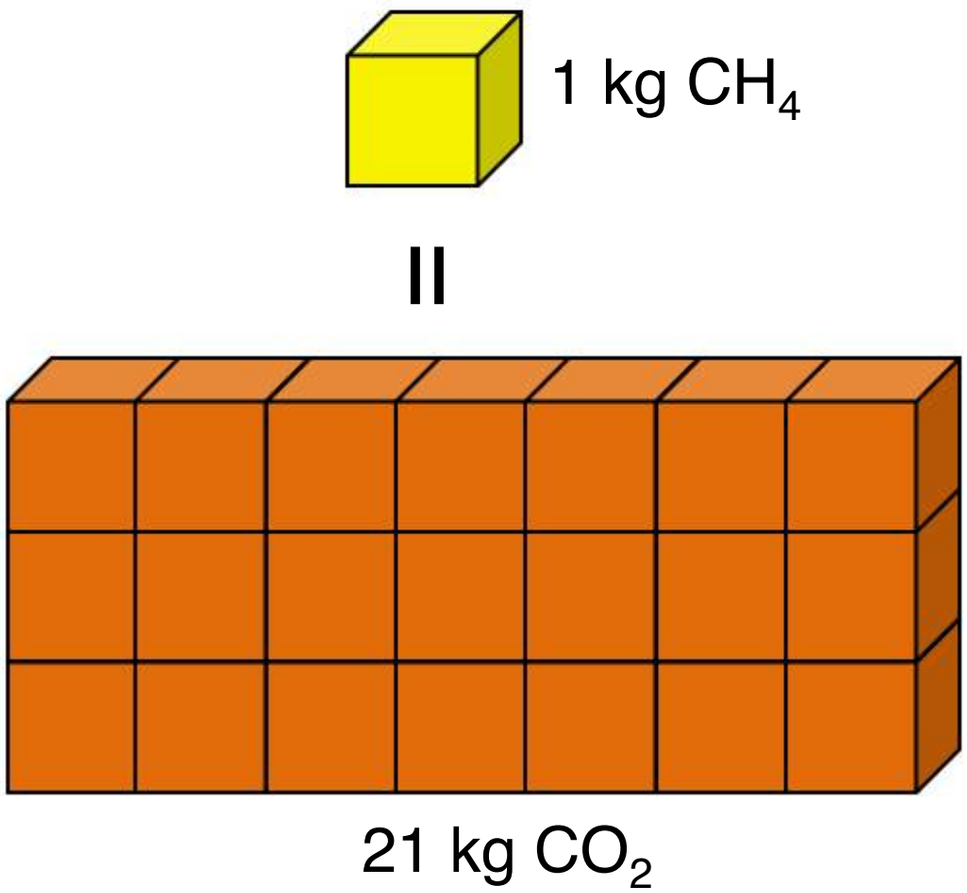
BUT HOW CLEAN?

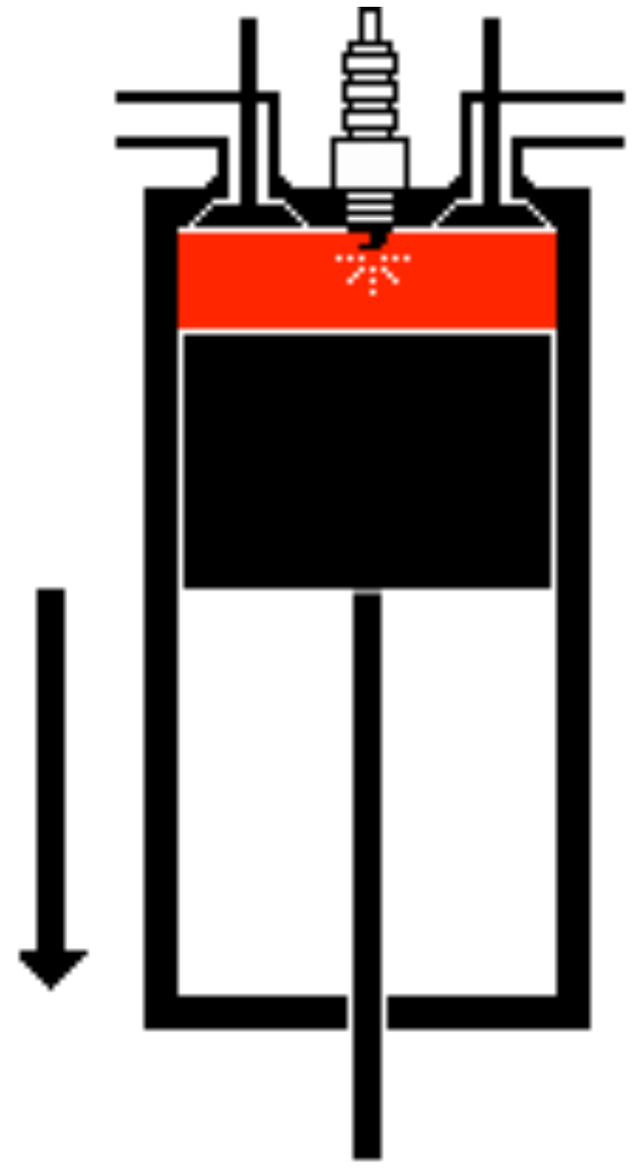

COAL
OIL
CO_2
CO
NO_x
SO_2
PARTICULATES
kg / 10^9 kJ input


COAL
OIL
CO_2
NATURAL GAS
55%
CO
20%
NO_x
SO_2
<1%
PARTICULATES
kg / 10^9 kJ input

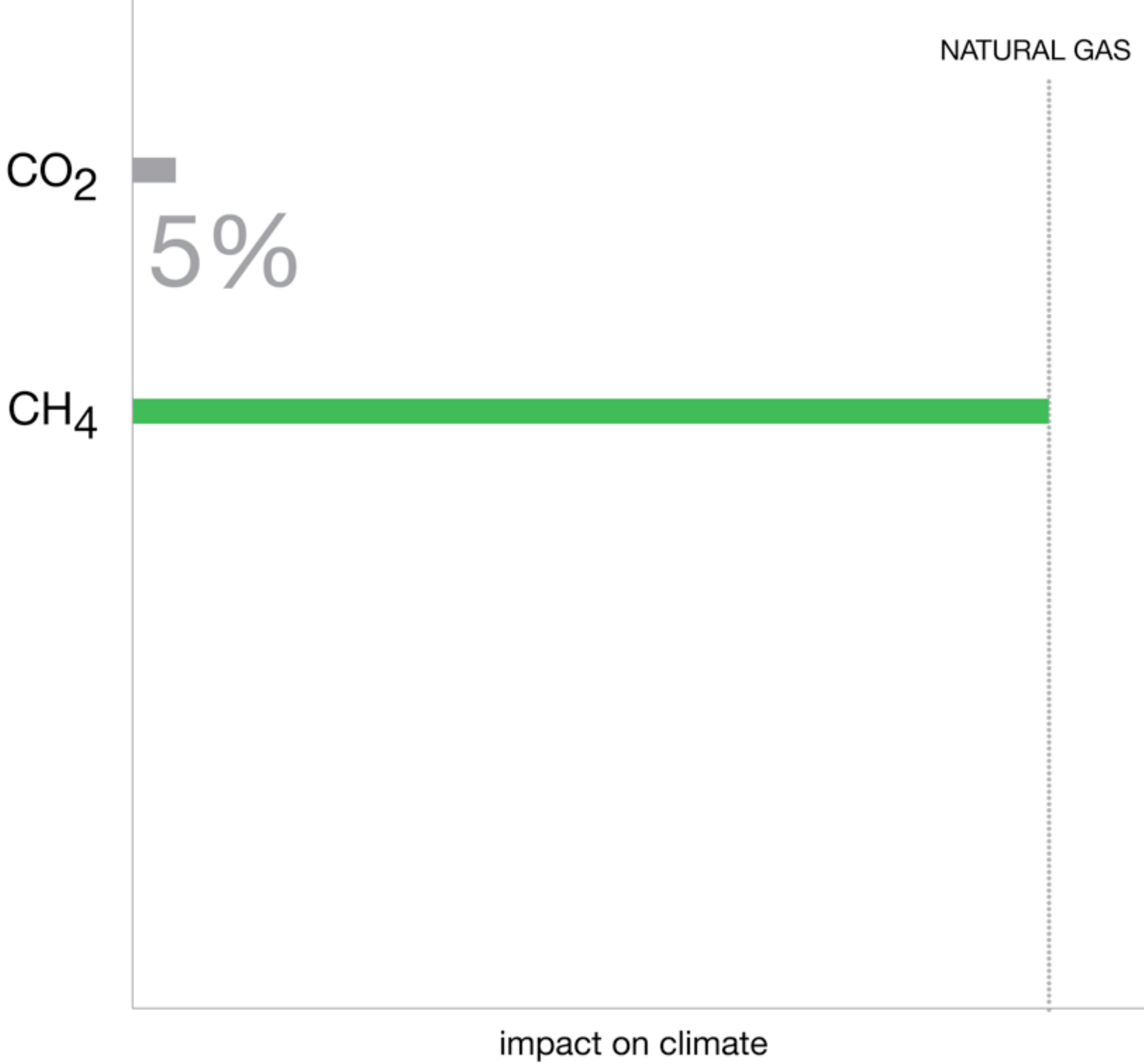
Issues with Natural Gas

Global warming potential





United States Environmental Protection Agency: Overview of Greenhouse Gases


NATURAL GAS
CO_2
5%
CH_4
impact on climate

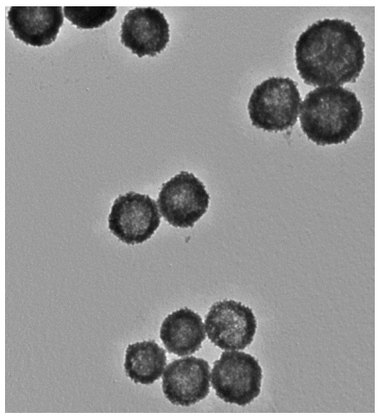
SAR of $Pd(NO_3)_2$ by Cerium Formate

1. CF synthesis

cerium nitrate + EG

418 K

24h



CF precursor

CF or CHC-f

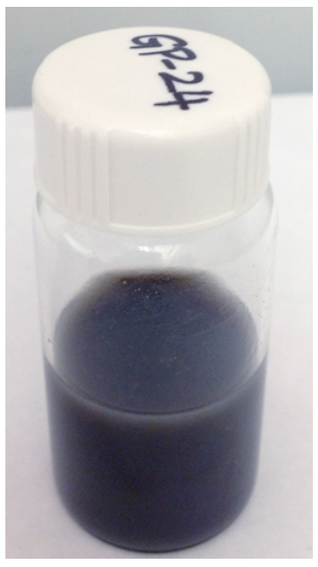
2.

$Pd(NO_3)_2 \bullet xH_2O$

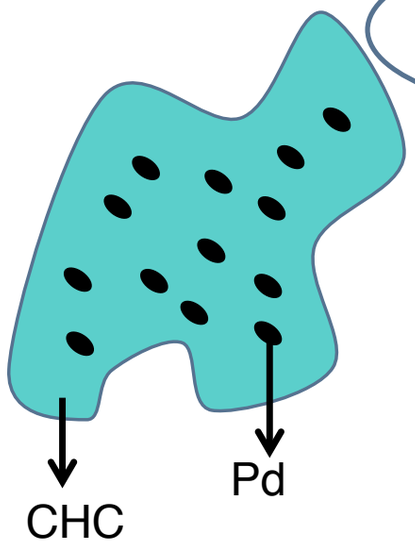
H_2O, RT

2h

CF/Pd or CHC-f/Pd



centrifuge

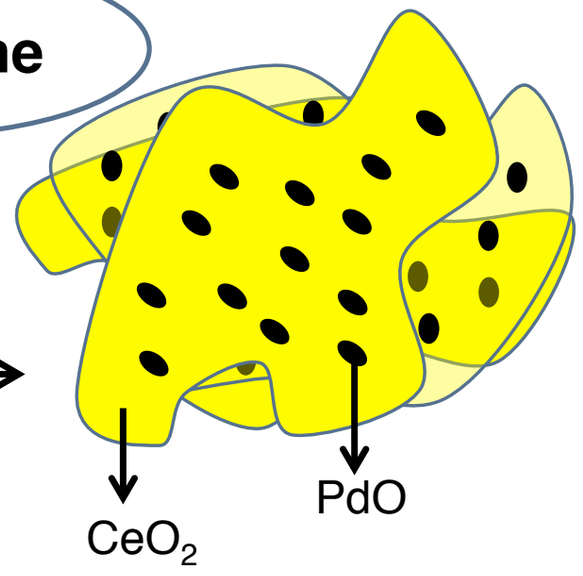


Pd-cerium formate composite

3. Calcine

Δ

400 °C/4h



Pd-CeO_2

MAINTAIN CONSISTENCY IN LABELING COMPLEX STEPS (K VS C, Δ)

AVOID OUTLINES OR BUBBLES FOR EMPHASIS—USE SPACE

AVOID USE OF IDENTICAL ARROWS FOR DIFFERENT MEANING—REACTION VS CALLOUT

INTRODUCE DETAIL IN OVERLAY SLIDE

SAR of $Pd(NO_3)_2$ by Cerium Formate

SYNTHESIS

145 C
24 h

cerium nitrate
+
EG

→ CF precursor

centrifuge →

Pd-cerium formate composite

CALCINE

400 C
4 h

→

Pd-CeO_2

STEP 2

$Pd(NO_3)_2 \cdot xH_2O$
H_2O, RT
24 h

CF → CF/Pd
CHC-f → CHC-f/Pd →

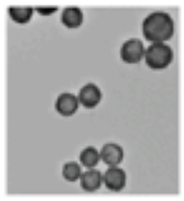
SAR of $Pd(NO_3)_2$ by Cerium Formate

SYNTHESIS

145 C
24 h

cerium nitrate
+
EG

→ CF precursor



centrifuge →

CHC
Pd

Pd-cerium formate composite

CALCINE

400 C
4 h →

CeO_2
PdO

Pd-CeO_2

STEP 2

$Pd(NO_3)_2 \cdot xH_2O$
H_2O, RT
24 h

CF → CF/Pd
CHC-f → CHC-f/Pd

CASE STUDY 3

ANNE STEINØ

Elucidation of mechanisms involved in factor VIIa clearance

PhD defense by
Anne Steinø

Copenhagen University
and
Novo Nordisk A/S

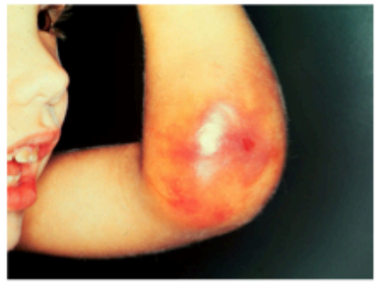
1

Outline

- Introduction to hemotasis and FVIIa treatment
- Pharmacokinetics (PK) of FVIIa (paper I)
- EPCR-dependent binding to endothelial cells (paper II)
- EPCR-independent binding to endothelial cells (paper III)
- General discussion
- Future directions

2

Background



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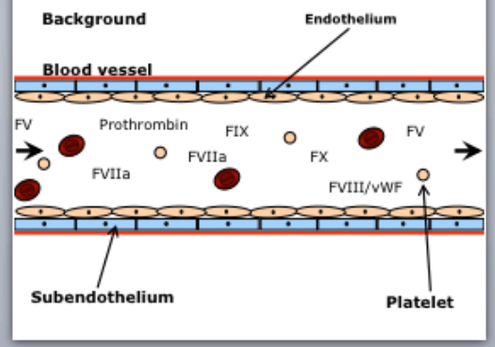
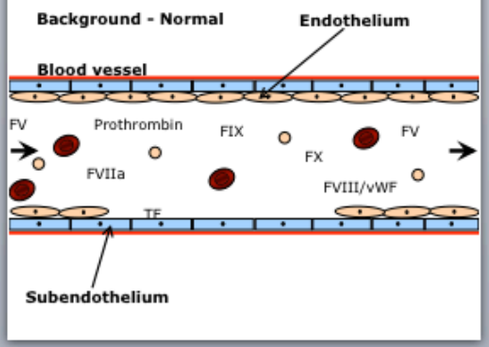
Background



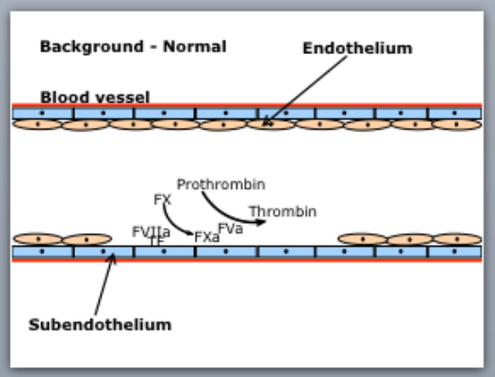
4

Background - Normal



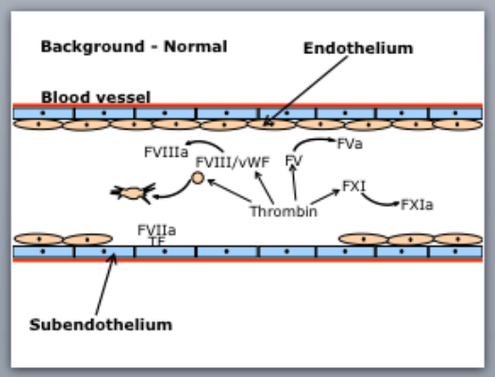
5

Background - Normal



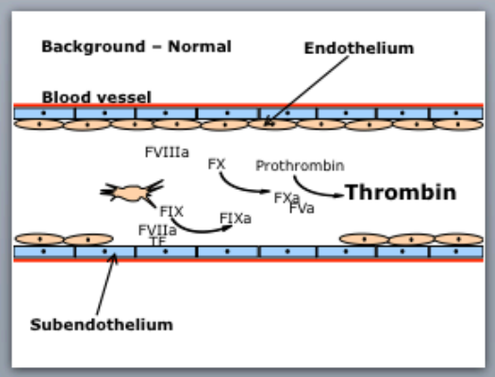
6

Background - Normal



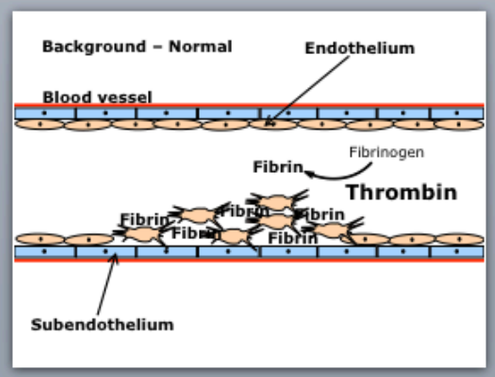
7

Background – Normal



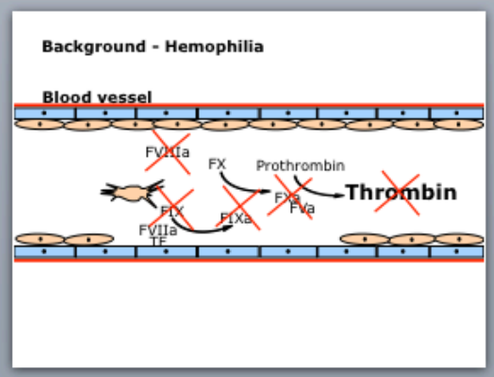
8

Background – Normal



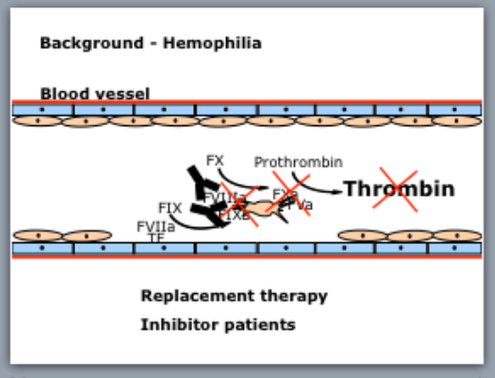
9

Background - Hemophilia



10

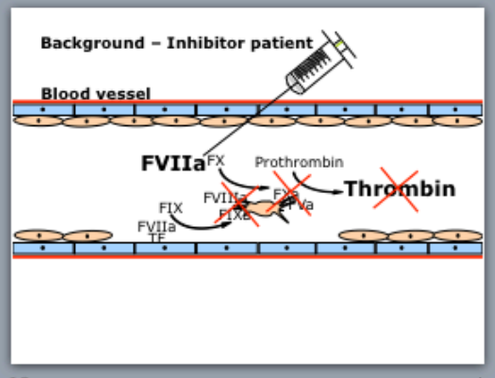
Background - Hemophilia



Replacement therapy
Inhibitor patients

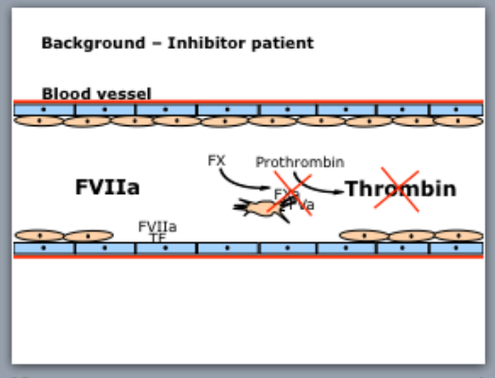
11

Background – Inhibitor patient



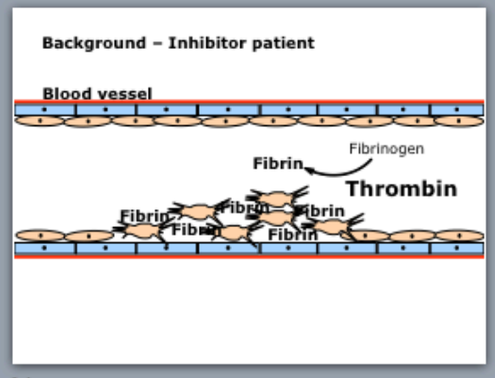
12

Background – Inhibitor patient



13

Background – Inhibitor patient



14

Background – Inhibitor patient

Why is he still in a wheelchair?

15

Background – Inhibitor patient

Why is he still in a wheelchair?

WHY IS THIS ON SLIDE 15?

HUMAN STORIES BEFORE DETAIL

APPEAL TO EMOTION FIRST, THEN PROVIDE FACTS

IF ASKING THE AUDIENCE TO COPE WITH COMPLEXITY,
TELL THEM WHY

EXERCISE 2

CREATE A PRESENTATION

TOPIC: CANADA
USE WIKIPEDIA ENTRY FOR INFORMATION

SLIDES: 2 11X17, DRAWN, BLACK MARKER
PREP TIME: 20 MIN
TIME: 3 MIN

AFTER THE PRESENTATION GIVE A 2 MIN PRESENTATION ABOUT YOUR PRESENTATION—
WHAT WAS YOUR PROCESS?
WHAT CHOICES DID YOU HAVE TO MAKE?

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