

# Public Comment from California Air Resource Board

Scientific Guidance Panel Meeting  
November 2014

# Summary of data sources

Source	Reported	Dyno. cycle	Aftertreatment	Sample type
ACES I (2009)	µg / bhp-hr	FTP / Creep / Cruise	EGR, cat. DPF	total
ACES II (2013)	µg / bhp-hr	FTP / Cruise	EGR + cat. DPF + SCR	total
Carrara (2011)	ng / kg exhaust	European Stationary	DPF + ox.cat.	PM only
Heeb (2008)	µg / L fuel	ISO 8178	DPF w/Cu-Fe fuel additive	total
Heeb (2010)	µg / L fuel	ISO 8178	low- and high-ox DPFs	total
Hu (2013)	ng / mile	Cruise (50 mph)	DPF w/ & w/o SCR	PM only
Huang (2013)	µg / kW-hr	constant load	none	PM only
Liu (2010)	µg / bhp-hr	FTP	EGR, EGR + DPF	total
Ratcliff (2010)	pg / bhp-hr	AVL (8 mode)	EGR + CCRT	PM only

# Nitro-PAHs in HDDV exhaust

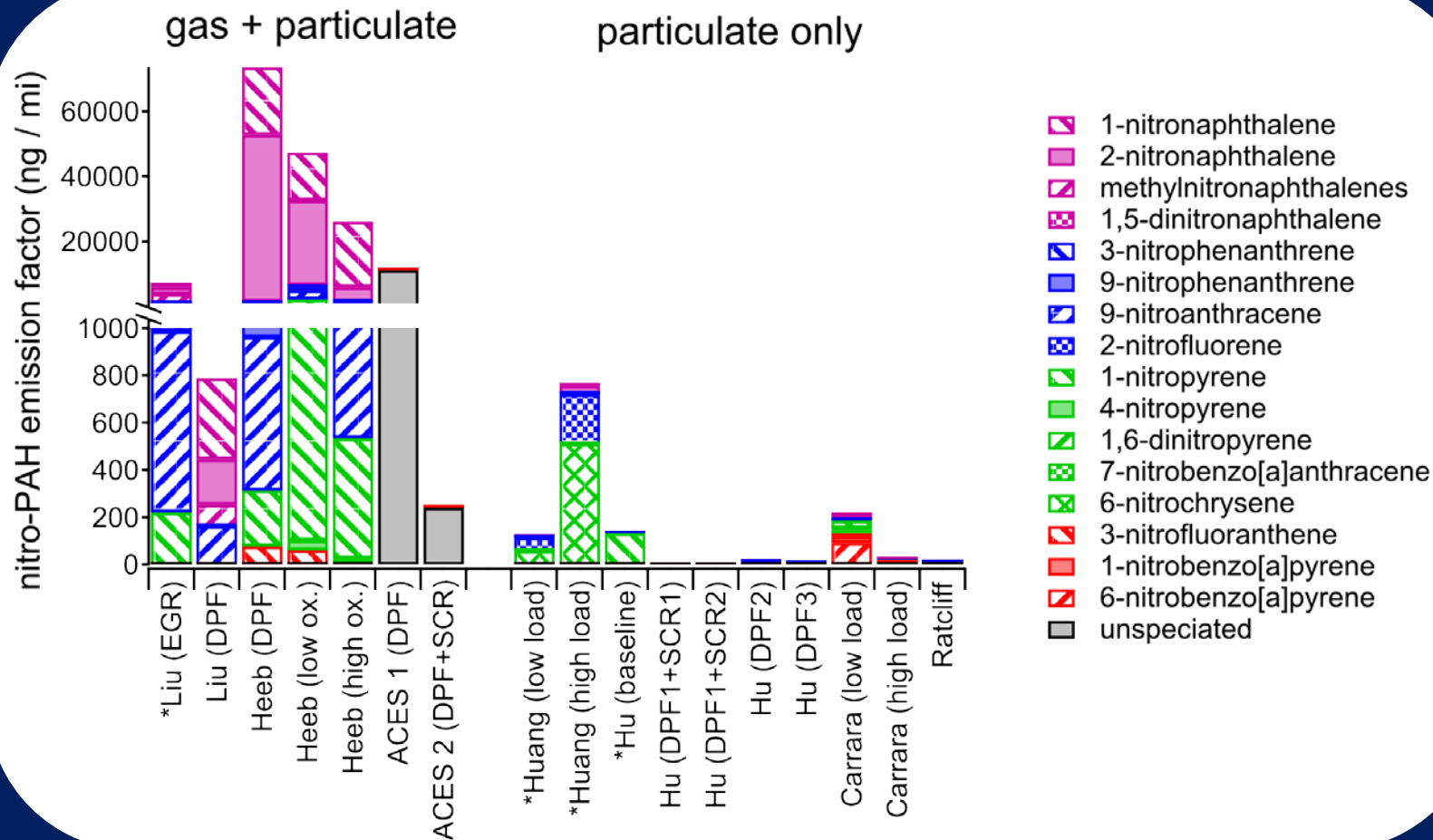


Figure 1: Nitro-polycyclic aromatic hydrocarbon (PAH) emission factors from heavy-duty diesel vehicles (HDDVs) taken from nine literature sources, reported in ng emitted per mile driven. Different patterns indicate different individual nitro-PAH species, and the colors purple, blue, green, and red depict 2-, 3-, 4-, and 5-ring nitro-PAHs. Asterisks on the x-axis indicate engines without DPFs.