

Supporting Information for

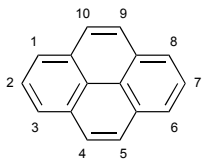
Cyclophanes Containing Large Polycyclic Aromatic Hydrocarbons

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Basic Bridging Motifs for PAHs **4**, **105**, **112**, **116**, **123**, **134**, **141**, **156**, **165**, **167**, **169**, **171** and **174**

The basic bridging motifs for PAHs **4**, **105**, **112**, **116**, **123**, **134**, **141**, **156**, **165**, **167**, **169**, **171** and **174** are presented as the remnants of a grid containing all combinations of possible bridgeheads. Combinations that are equivalent to ring fusion have been deleted. This includes pairs of carbon atoms that are either bonded to one another or those that are separated by a pathway along the periphery that consists only of quaternary carbon atoms. Combinations that are equivalent to another combination with a lower first number have also been deleted. For example, in pyrene (**4**), the (1,2) and (1,10) bridging motifs have been deleted because they are equivalent to ring fusion and the (2,6) bridging motif has been deleted because it is equivalent to the (1,7) bridging motif.

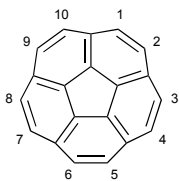
Pyrene (**4**)



(1,3) (1,4) (1,5) (1,6) (1,7) (1,8) (1,9)
(2,4) (2,5) (2,7)
(4,9) (4,10)

Total = **12** basic bridging motifs.

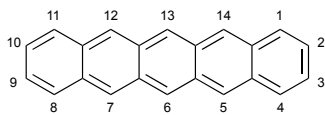
Corannulene (**105**)



(1,3) (1,4) (1,5) (1,6) (1,8)

Total = **5** basic bridging motifs.

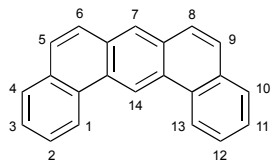
Pentacene (112)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	
		(2,5)	(2,6)	(2,7)		(2,9)	(2,10)		(2,12)	(2,13)	(2,14)
				(5,7)					(5,12)	(5,13)	(5,14)
										(6,13)	

Total = 24 basic bridging motifs.

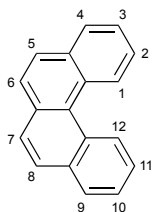
Dibenzo[*a,j*]anthracene (116)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)	(2,12)		(2,14)
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	(3,11)			(3,14)
			(4,6)	(4,7)	(4,8)	(4,9)	(4,10)				(4,14)
				(5,7)	(5,8)	(5,9)					(5,14)
					(6,8)						(6,14)
											(7,14)

Total = 42 basic bridging motifs

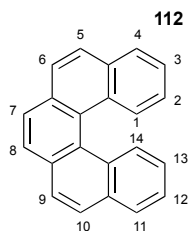
[4]Helicene (123)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	
			(4,6)	(4,7)	(4,8)	(4,9)		
				(5,7)	(5,8)			

Total = 29 basic bridging motifs

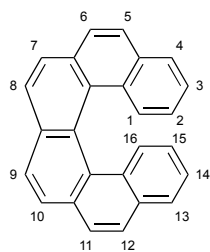
[5]Helicene (134)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)	(2,12)	(2,13)
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	(3,11)	(3,12)	
			(4,6)	(4,7)	(4,8)	(4,9)	(4,10)	(4,11)		
				(5,7)	(5,8)	(5,9)	(5,10)			
					(6,8)	(6,9)				

Total = 41 basic bridging motifs

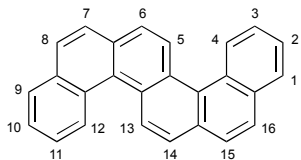
[6]Helicene (141)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	(1,14)	(1,15)
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)	(2,12)	(2,13)	(2,14)	(2,15)
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	(3,11)	(3,12)	(3,13)	(3,14)	
			(4,6)	(4,7)	(4,8)	(4,9)	(4,10)	(4,11)	(4,12)	(4,13)		
				(5,7)	(5,8)	(5,9)	(5,10)	(5,11)	(5,12)			
					(6,8)	(6,9)	(6,10)	(6,11)				
						(7,9)	(7,10)					

Total = 55 basic bridging motifs.

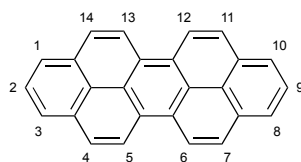
Dibenzo[*c,l*]chrysene (156)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	(1,14)	(1,15)	
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)		(2,10)	(2,11)	(2,12)	(2,13)	(2,14)	(2,15)	(2,16)
		(3,5)	(3,6)	(3,7)	(3,8)			(3,11)	(3,12)	(3,13)	(3,14)	(3,15)	(3,16)
			(4,6)	(4,7)	(4,8)				(4,12)	(4,13)	(4,14)	(4,15)	(4,16)
				(5,7)	(5,8)					(5,13)	(5,14)	(5,15)	(5,16)
					(6,8)						(6,14)	(6,15)	(6,16)
												(7,15)	(7,16)
													(8,16)

Total = 56 basic bridging motifs.

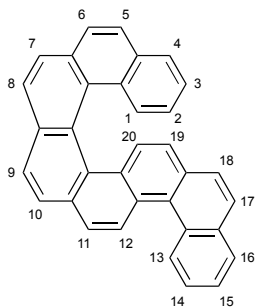
Peropyrene (165)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	
	(2,4)	(2,5)	(2,6)	(2,7)		(2,9)					
			(4,6)	(4,7)				(4,11)	(4,12)	(4,13)	(4,14)
								(5,12)	(5,13)		

Total = 24 basic bridging motifs.

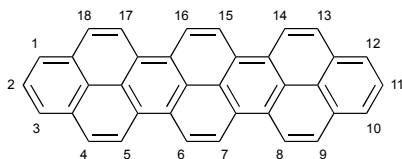
Naphtho[2,1-c][6]helicene (167)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	(1,14)	(1,15)	(1,16)	(1,17)	(1,18)
	(1,19)														
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)	(2,12)	(2,13)	(2,14)	(2,15)	(2,16)	(2,17)	(2,18)
	(2,19)	(2,20)													
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	(3,11)	(3,12)	(3,13)	(3,14)	(3,15)	(3,16)	(3,17)	(3,18)
	(3,19)	(3,20)													
	(4,19)	(4,20)	(4,6)	(4,7)	(4,8)	(4,9)	(4,10)	(4,11)	(4,12)	(4,13)	(4,14)	(4,15)	(4,16)	(4,17)	(4,18)
	(5,19)	(5,20)		(5,7)	(5,8)	(5,9)	(5,10)	(5,11)	(5,12)	(5,13)	(5,14)	(5,15)	(5,16)	(5,17)	(5,18)
	(5,19)	(5,20)		(5,7)	(5,8)	(5,9)	(5,10)	(5,11)	(5,12)	(5,13)	(5,14)	(5,15)	(5,16)	(5,17)	(5,18)
	(6,19)	(6,20)			(6,8)	(6,9)	(6,10)	(6,11)	(6,12)	(6,13)	(6,14)	(6,15)	(6,16)	(6,17)	(6,18)
	(7,19)	(7,20)				(7,9)	(7,10)	(7,11)	(7,12)	(7,13)	(7,14)	(7,15)	(7,16)	(7,17)	(7,18)
	(8,19)	(8,20)					(8,10)	(8,11)	(8,12)	(8,13)	(8,14)	(8,15)	(8,16)	(8,17)	(8,18)
	(9,19)	(9,20)						(9,11)	(9,12)	(9,13)	(9,14)	(9,15)	(9,16)	(9,17)	(9,18)
	(10,19)	(10,20)							(10,12)	(10,13)	(10,14)	(10,15)	(10,16)	(10,17)	(10,18)
	(11,19)	(11,20)								(11,13)	(11,14)	(11,15)	(11,16)	(11,17)	(11,18)
	(12,19)	(12,20)									(12,14)	(12,15)	(12,16)	(12,17)	(12,18)
	(13,19)	(13,20)										(13,15)	(13,16)	(13,17)	(13,18)
	(14,19)	(14,20)											(14,16)	(14,17)	(14,18)
	(15,19)	(15,20)												(15,17)	(15,18)
	(16,19)	(16,20)													(16,18)
	(17,19)	(17,20)													
	(18,20)														

Total = 170 basic bridging motifs

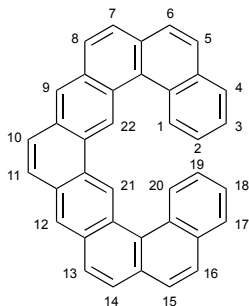
Teropyrene (169)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	(1,14)	(1,15)	(1,16)	(1,17)					
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)		(2,11)											
			(4,6)	(4,7)	(4,8)	(4,9)				(4,13)	(4,14)	(4,15)	(4,16)	(4,17)	(4,18)				
			(5,7)	(5,8)						(5,14)	(5,15)	(5,16)	(5,17)						
										(6,15)	(6,16)								

Total = 40 basic bridging motifs

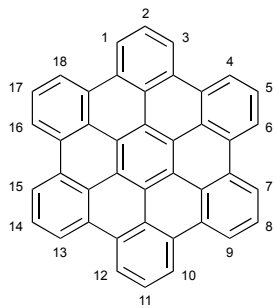
Dinaphtho[1,2-*a*;2',1'-*o*]pentaphene (171)



(1,3)	(1,4)	(1,5)	(1,6)	(1,7)	(1,8)	(1,9)	(1,10)	(1,11)	(1,12)	(1,13)	(1,14)	(1,15)	(1,16)	(1,17)	(1,18)	(1,19)				
	(2,4)	(2,5)	(2,6)	(2,7)	(2,8)	(2,9)	(2,10)	(2,11)	(2,12)	(2,13)	(2,14)	(2,15)	(2,16)	(2,17)	(2,18)	(2,19)	(2,21)	(2,22)		
		(3,5)	(3,6)	(3,7)	(3,8)	(3,9)	(3,10)	(3,11)	(3,12)	(3,13)	(3,14)	(3,15)	(3,16)	(3,17)	(3,18)		(3,21)	(3,22)		
			(4,6)	(4,7)	(4,8)	(4,9)	(4,10)	(4,11)	(4,12)	(4,13)	(4,14)	(4,15)	(4,16)	(4,17)			(4,21)	(4,22)		
				(5,7)	(5,8)	(5,9)	(5,10)	(5,11)	(5,12)	(5,13)	(5,14)	(5,15)	(5,16)				(5,21)	(5,22)		
					(6,8)	(6,9)	(6,10)	(6,11)	(6,12)	(6,13)	(6,14)	(5,15)					(6,21)	(6,22)		
						(7,9)	(7,10)	(7,11)	(7,12)	(7,13)	(7,14)						(7,21)	(7,22)		
							(8,10)	(8,11)	(8,12)	(8,13)							(8,21)	(8,22)		
								(9,11)	(9,12)								(9,21)	(9,22)		
																	(10,21)	(10,22)		

Total = 107 basic bridging motifs

Hexabenzo[bc,ef,hi,kl,no,qr]coronene (174)



(1,3) (1,4) (1,5) (1,6) (1,7) (1,8) (1,9) (1,10) (1,11) (1,12) (1,14) (1,15) (1,17)
(2,5) (2,8) (2,11)

Total = 16 basic bridging motifs.
