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Ñ Û ô39 °>2 v>/ ¥ "@ ö Û&É Q0¿>& Û ô39 °%, ç'"12 •>'

Ñ Û ô40 °>2 v>/ ¥ "@ ö Û&É \_&" ö /1n Û>#ú8 "@ ö1n Û l g5 ""@ ö1n Û Q0¿
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Ñ Û ô42 °>2 v>/ ¥ X Û&É \_ Z X1=1n Û l g )%& X Û1n Û †>\*"@ ö Û&É \_8 5 ""@ ö1n Û l g
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Ñ Û ô42 °>4 v>/ ¥ 7C " g#Ô8@%Ê'2 ¿¿0¿\*( >& Û ô42 °%, ç'"11 •>'

Ñ Û ô43 °>2 v>/ ¥ X Û&É \_ ¢ ( %&ì '1n Û Q0¿>& Û ô43 °%, ç'"17 •>'
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Ñ Û ô44 °>2 v>/ ¥ X Û&É \_& "á1=1n Û>\* ì Û&É \_ o Â w µ ì Û1n Û l g ³!)"@ w µ ì Û1n Û
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Ñ Û ô45 °>2 v>/ ¥ ì Û&É \_ S4 ì Û1n Û Q0¿>& Û ô45 °%, ç'"14 •>'
 #. Û%Ê'2&É"@ ö Û S 7>& \$ ^1"&ì>& Û ô43.3.30 Û ±'" 32 b16 •>'

Ñ Û ô46 °>2 v>/ ¥ ì Û&É \_6 / ì Û1n Û Q0¿>& Û ô46 °%, ç'"19 •>'

Ñ Û ô48 °>2 v12 ¥ #.1="@#. Û%Ê'2 d \_%Ê'24Š6Û ñ 1= Q0¿>& Û ô48 °%, ç'">6 •>'

Ñ Û ô49 °>2 v11 ¥ 7C " á+→! Ü"@ 9, d0¿\*( >& Û ô49 °%, ç'"13 •>'

Ñ Û ô52 °>2 v 18 ¥ 7C " Ü"@4G Ê -'ö 9, ¿¿0¿\*( >& Û ô52 °%, ç'"11 •>'

Ñ Û ô56 °>2 v>/ ¥ 7C " g#Ô8@%Ê'2 ¿¿¿ \_ #Ô#. #Ô Â Û%Ê'24Š6Û>& (4Š6Û>' Q0¿

Ñ Û ô59 °>2 v>/ ¥ 7C " g#Ô8@%Ê'2 ¿¿¿ \_ 4 ì#Ô ì Û%Ê'24Š6Û Q0¿>&10 ° ì7H>'

Ñ Û ô62 °>3 v21 ¥ #Ô"@ Û&É \_ ( Ê4G Û1n Û Q0¿>& Û ô62 °%, ç'"19 •>'

Ñ Û ô63 °>2 v>6 ¥ #Ô"@ Û&É \_ (ý+ S( Û1n Û Q0¿>& Û ô63 °%, ç'"16 •>'

Ñ ¹ B - °>3 v29 ¥ "@ ö Û&É \_ œ"@ ö1n Û Q0¿>& ¹ B - °%, ç'"25 •>'
 7C " g#Ô8@%Ê'2 ¿¿¿ \_ g2A\$!# µ S%Ê'24Š6Û Q0¿
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Ñ ^1 B10 °>2 v>/ ¥ "@#. Û&É \"@ ö Û&É †"@#. &É Û&É \_ 5)  
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B F. •GeG(G>GwGnFú•F0F0 d Fp " )H 0ò(ŸFŸ Ú#0) 0tG" gl:FpFáfF0FŸH G" Ÿ "FéG G H p Ú / M1M M' 0Á"gh #.&ÉH H 9x¼ Ú / M1M M' 0Á"gh #.&ÉH H ( 2( AFp v "FÚ •+ F÷FÓG F¹

H M86 M"ñH

Table with 8 columns: (, &ÉF.% F. F. (, 0[ Ÿ " " ) X, 5F. F.&ÉF.% F.¼, " ) X, š Ÿ (, † = š ŸGIGoGGGMGŠFp X 8FŸGIGoGGGMGŠG' &gFéH F.H @>ŸH. Sub-headers include >Ÿ°, >ß°, >à°, S ‡, < ‡, 1, 2, 3, 4, 5, 6, 7, 8.

H @>ŸH0³UFçF6FÓG GIGoGGGMGŠFŸ † = š ŸGIGoGGGMGŠG'²FçF6FÓG F¹ 0ñGIGoGGGMGŠG' é7FFp F66á0ž †H S ‡ JfŸ †H Fú š ŸFéG FáfF0G •+ F÷FÓG FŸH 5 &É% FúG G G G œG GMGŠGn&É% F6FçF6á1nFéG œFÚFÓG FpF÷H š Ÿ ° 0FpGEGwG'GG'¼FúG G & 1 FéG FáfF0F¹
H @>ŸH1^."@G%#0 è. Ú (5 FÁ JfŸFÁ Ú" @ (5 H.FpF0FèG FÚ>YGAGŠGGG'4E #FéG G FpFáfFéG FÚ>PbGAGŠGGG' w1nFçF¹ œFŸH " )FÚ1 G G G G FpFŸŸ>YGAGŠGG>P" )Fú7HG
H @>ŸHFA Ç e&k &É Ú(0&É% "LFÁFÚG >à" ) è VH FÁ+~) &É Ú(0&É% "LFÁFÚG >à" ) è VH œ0E>Ÿ>P" )G" Ÿ "FéG ²0[FÚFÓG F¹ M"ñ"É ( 0Á"ghFp v "G" | JfŸG œFŸH FÁ Ç e&k &É Ú(0&É% "LFÁFpFÁ #•) 2FÁFÚ² ŸF÷FÓG FáfF0FÚš -FéG FáfF0F¹
F.FÁ Ç e&k &É Ú(0&É% "LFÁF÷ ²0[Fú " )FúFŸH FÁ #¼ 1 &É% FÁFpFÁGAGMsGYG?GŠGEGuG• V(i,e1 FÁH FÁG2G•GTG•GEGd #¼1 FÁ IG FÁ • #¼1 Ú #fH GWG2GR1 H GcGwG01 H GcGwG01 H GcGwG01 H p 1 H 8Q 1 H H FÁFp š ŸFúG G Ÿ "FçF" )G"i "FéG FáfF0FÚF÷FŸG F¹
H @>ŸH. †1 Úš ¹¼FúG G FÁ,e1 JçG1GŠGyGWGxCGGŠG0FÁ JfŸŸ- Ú+~"FúG G FÁG8G•GwG2G•e1 ††>8G%>8>8G%>8>8>8FÁFp š ŸFúG G Ÿ "FçF" )G" FÁGAGMsGYG?GŠGEGuG• FçF0i "FéG FáfF0FÚF÷FŸG F¹
F. #¼1 + è 0è9,FúG G " )1 D 0G FÓG F¹0ò(ŸFŸ0F0F0FŸH Ú#0) 0tFú0³UFp M86 M"ñFp,e1 Fú66FéG 80 IG FÁ #¼1 + è 0è9,¼FúG G " )1 Fp v ...FÓ FúF0F0F0FÁG" gl:FéG FáfF0F¹
H @>ŸHŸ "FçFIFÁGgŠGEGQG= #¼1 B G%0BjG%0Bç IG BÉFÁFp " )FúF0F0F0FŸH FÁ&É% (G" eG FúF0F0F0Fú"i "FéG FáfF0FÚF÷FŸG F¹FúFÚH G0GwG01 FŸFÁB IG BjFÁFpG 6á1
H @>ŸHŸ "FçFIFÁ&k 4 &É% FÁFp " )FúF0F0F0FŸH FÁ&É% (G" eG FúF0F0F0Fú"i "FéG FáfF0FÚF÷FŸG F¹

F.B è WH 8kFÁ S6Ú M"ñFÁFú66FéG @ -180
H @>ŸHFA S6Ú&É% FÁFp0[ Ÿ " " )X>à>ŸG" FIFéFIG FúFŸH ² Ÿ&É% 0E>P>à" ) IG 4E #² Ÿ&É% 0E>ß>à" )Fú•F0F0H 4E #² Ÿ&É% IG +-#á4E #&É% FúG >Ÿ>Ú" ) è VG" Ÿ "FéG ²0[FÚFÓG F¹
H @>Ÿ>Ÿ&É% >P" )G"2x0F0F Ÿ "FçF" )JfŸFÁ&É% (G" eG FúF0F0F0Fú"i "FéG FáfF0FÚF÷FŸG F¹
H @>Ÿ>ŸH•R#0" @ M"ñ+•• "FÁFŸH 7Ÿ p g "F÷ °è>ß G6á1nFáG H w1n Ç XFú D7HFÚFÓG F¹
Á Ú "FÁFŸ>P>ß >ß ° #0G" P1B F0FçH ° «Fú7x °F÷6á1nFáG G F¹
H @>Ÿ>ŸH16a+•• "FŸFŸH M †6èFú7Ÿ pšx Fú/œG G H w1n Ç XFú D7HFÚFÓG F¹
H @>Ÿ>ŸH•R#0" @ M"ñ+•• "FÁFŸH 7Ÿ p g "F÷ °è>ß G6á1nFáG H w1n Ç XFú D7HFÚFÓG F¹
H @>Ÿ>ŸH#0" @ &É Ú¹ 91n"OFÁFŸH M †6èH >áGIGoGGGMGŠG' é7FH Fú7Ÿ p g "F÷6á1nFáG G F¹
H @>Ÿ>ŸH0[ 6" )XFŸ>Ÿ>P>àF÷FÓG FpF÷H >É% (Fp0[ Ÿ " " )X>0 M86 M"ñ&É% >ß>à" )H S6Ú M"ñ&É% >à>à" )F. œ0E>Ÿ>Ÿ>à" )0F0F•F0F0H M86 M"ñ&É% IG S6Ú M"ñ&É% &É% (G" eG FèH FÁG Fú>Ÿ>Ú" )è V Ÿ "FéG FáfF0FÚ ²0[F÷FÓG F¹
F.FIF0FçH è WpF&É% Fp " )FŸ µG FúF0F¹ M"ñ"É ( 0Á66 œ&É% Fp0ò(ŸFŸH Ú#0) 0tFú0³UFpFÁ M"ñ"É ( 0Á"ghFp v "FúF0F0F0FÁFp Ÿ " ²0[ " ) M0t2" gl:FéG FáfF0F¹
F.G%>Ÿ>P" )G"2x4#FçF0 Ÿ "FçFIFÁ8• œ&É% FÁ
F.G%FÁ Ú áGGGkGŠGR&É% FÁ
F.G% M"ñ"É ( 0Á66 œ&É% FpF0F0FÁ M&ÉFú66FéG S6Ú\$x 180FÁ è #Fp&É%
F.G%FÁ M&ÉFú66FéG S6Ú\$x 180FÁFpF0F0FÁ FÁ#.#. Ú 9,H FÁH FÁ i Ú 9,H FÁH FÁ#0" @ Ú 9,H FÁ IG FÁ ... Ú 9,H FÁ
F.G% Ú Ú4š ÚGeG(G>GwGn'¼Fú6á1nFéG FÁ S6Ú 6&0&É% FÁ IG FÁ S6Ú&É% FÁH #0" @ ÚGeG(G>GwGn , \ M ( FÚ1 G G G FpG'7VF&H





& > '...#+ h í @ « , Ò Ù É Æ Ç Û Ò

F- š ŸF060FéG ² öFýH ...#+ h íGEGGGTgn ÚGeG(G>GwGn š Ÿ0]8\*F00³UFáG FöFÖG FpF÷ @ -FéG FáföF¹

F-FáföF²Fú VFáG 5 &É% Fp ÚH ÚGeG(G>GwGnG% Ú Ú4Š jFý Ú ± Ú"¼F÷6á1nFáG G 5 &É% G" š ŸFéG FáföFÚF÷FÝH ...#+ h íGEGGGTgn ÚGeG(G>GwGn , \ M ( FpFúFöFÖFöFýH Ý "FçFí " )G" 0[ öFp " )Fúì °FéG FáföFÚF÷FÝG F¹

B F- •GeG(G>GwGnFú •FöFö d Fp " )H 0ð(ýFý Ú#Ö )0tG" gl-FpFáföH G" Ý "FéG G H p Û /M1M M' 0Á"g>Ö#.&ÉH H 9x¼ Û /M1M M' 0Á"g>Ö#.&É>ÖH ,A (FöFúG 2( AFp v "FÚ •+ F÷FÖG F¹

H M8ö M"ñH

(	&ÉF.% F. F. (	0[ Ý " ) X	5F. F.&ÉF.% F.¼	" ) X	š Ý (	† = š ŸGIGoGGGMGSŠFp x ðFyGIGoGGGMGSŠ* &gFéH F.H @>YH												
						>Ý°		>ß°		>à°		>à°						
						S	◁	S	◁	S	◁	S	◁					
	1 ö&É%	2	FÁ¹ ö&É% FÁFÚG	>ß	4E ≠ ² Ý	E•												
	± Û M"ñ °6Û	2	± Û M"ñ °6Û	2	²F.F. Ý	D												
	M8öGJGm	2	M8öGJGm	2	²F.F. Ý	D												
	8• æ&É%	8	FÁ8• æ&É% FÁFÚG F.H @>ßH	>Ý jFy>ß	4E ≠ ² Ý	E•	E•	E•	E•									
1 F. 3Ù F. &É F. %	GAGmGsGYG?GŠGEGuG• ö&Q	2	GAGmGsGYG?GŠGEGuG• ö&OB	1	²F.F. Ý	D												
			GAGmGsGYG?GŠGEGuG• ö&OBj	1			D											
	GAGmGsGYG?GŠGEGuG•B	2	GAGmGsGYG?GŠGEGuG•B H	1	²F.F. Ý	D												
			GAGmGsGYG?GŠGEGuG•B H	1		D												
	GAGmGsGYG?GŠGEGuG•Bj	2	GAGmGsGYG?GŠGEGuG•BjH	1	²F.F. Ý		D											
			GAGmGsGYG?GŠGEGuG•BjH	1			D											
	H GWG2GR1 H GcGwG•GG1 H GG GhG2G	2	GgGŠGEGQG= ¥\1 B	1	4E ≠ ² Ý	E•												
			GgGŠGEGQG= ¥\1 Bj	1		E•												
	1 H G(GEG01 H p\1 H 8Q\1 H G0GwGaG01 FpFÖFñFÜG H 0M1 4E ¥H			B IG BjFý M0*1 G*4E ¥FéG Fáfö														
			2	_ G%GUGŠGM&É Û °6Û	2	²F.F. Ý	D											
		2	GJG(FÜG FýFéG G GeG(G>GwGmG•G> GUGŠGMGCG2G6G•GG ö&O	2	4E ≠ ² Ý		E•											
		2	GUGŠGMGCG2G6G•GG ö&O	2			E•											
	ú äGGGkGŠGR&É% H @>áH >Ö>Û>		ÖÁ ú äGGGkGŠGR&É% FÁFÚG	>Ý jFy>ß	4E ≠ ² Ý	E•	E•											
	&k 4 &É% H @>áH		ÖÁ&k 4 &É% FÁFÚG	>Ý jFy>ß	4E ≠ ² Ý	E•	E•											
M F. 8ö F. M F. ñ F. &É F. %	öF.% F.&ÉF.%	4	¤ (' ( Û>ö	2	4E ≠ ² Ý	E•												
			¤ (' ( Û>ö>ö	2			E•											
			]z g æ X ÚH%	2			E•											
			]z g æ X ÚH%H%	2			E•											
	VO">à&É% FÜG >ß&É% >à " )																	
		8	4	"@#. Û 9, 2G% 9,B	1	4E ≠ ² Ý		E•										
				"@#. Û 9, 2G% 9,Bj	1			E•										
				i Û 9, 2G% 9,B	1				E•									
				i Û 9, 2G% 9,Bj	1				E•									
				#Ö"@ Û 9, 2G% 9,B	1				E•									
#Ö"@ Û 9, 2G% 9,Bj				1				E•										
... Û 9, 2G% 9,B	1			E•														
... Û 9, 2G% 9,Bj	1			E•														
VO">à&É% FÜG M&É% FpB IG BjG"0£>à " )																		
M8ö M"ñ&É% `0£		34																

H @>ñH ³UFöFÖG GIGoGGGMGSŠF† = š ŸGIGoGGGMGSŠ²FçFöFÖG F¹ 10ñGIGoGGGMGSŠ é7FFp Fè6á0; ðH S † jFý ( ðH Fú š ŸFéG FáföG •+ F÷FÖG FÜH 5 &É% FÜG G œG GMGSgn&É% FöFçFö6á1nFéG œFÜFÖG FpF÷H š Ý ° ØFpGEGwG\*GG¼FÜG G & 1 FéG FáföF¹

H @>ñH Ç e&k &É Ú(Ö&É% \*LFÁFÜG >à " )H F.F.Á+~¼&É Ú(Ö&É% \*LFÁFÜG >à " ) Ý "FéG ²0[FÜFÖG F¹ M"ñ\*É ( 0Á"gFp v "G" ) jFfG œFýH FÁ Ç e&k &É Ú(Ö&É% \*LFÁFÜG •\ 2FÁFÜ ²ÝF÷FÖG FáföFú\$ -FéG FáföF¹ F.F.Á Ç e&k &É Ú(Ö&É% \*LFÁF÷ ²0[Fü " )FüFýH FÁ ¥\1 &É% FÁFpFÁGAGmGsGYG?GŠGEGuG• V(i,e1 FÁH FÁG2G•GTG•GEGd ¥\1 FÁ IG FÁ •¥1 Û ðFñ GWG2GR1 H Gc 1 H G(GEG01 H p\1 H 8Q\1 H FÁFp š ŸFÜG G Ý "FçFí " )G"i °FéG FáföFÚF÷FÝG F¹

H @>ñH ð1 Ú\$ Û¼FÜG G FÁ,e1 jGcG1GŠGyGWGxGCGŠGÖFÁ jFý+~ Û+~FÜG G FÁG8G•GwG2G•e1 †f÷öG%>ö>öG%>ö>ö>öFÁFp š ŸFÜG G Ý "FçFí " )G"i FÁGAGmGsGY FçFö¹ "FéG FáföFÚF÷FÝG F¹ F.¥\1 •+ è 0è9,FÜG G " )1 D ÖG FÖG F¹0ð(ýFüFöFÖFöFýH Ú#Ö )0tFü0³UFp M8ö M"ñFp,e1 Fú6öFéG 8o IG FÁ ¥\1 •+ è 0è9¼FÜG G " )1 Fp v ...FÖ FúFöFÖFöFÁG" gl:FéG FáföF¹

H @>ñH Ý "FçFíFÁ ú äGGGkGŠGR&É% FÁFp " )FúFöFÖFöFýH FÁ&É% (G" eG FúFöFÁFúì "FéG FáföFÚF÷FÝG F¹

H @>ñH Ý "FçFíFÁ&k 4 &É% FÁFp " )FúFöFÖFöFýH FÁ&É% (G" eG FúFöFÁFúì "FéG FáföFÚF÷FÝG F¹

F.B è WH 8kFÁ S6Û M"ñFÁFü6öFéG @ -]8o

H @>F.F.Á S6Û ö&O&É% FÁ IG FÁ S6Û&É% FÁ0[ Ý " " )X>à>àG" "FíFéFíG FúFýH ²Ý&É% >à>ß" ) IG 4E ≠ ² Ý&É% >ß>à " )G" Ý "FéG FáföFú •FöFöH 4E ≠ ² Ý&É% % FÜG >à " ) è VG" Ý "FéG FáföFú ²0[F÷FÖG F¹

H @>ñH FÁ ¥²FÁFÜ š ŸFéG FíG FúFýH 0[ ö " )>Ý>ß>à " )FpFÖFñH FÁ ...#+ h íGEGGGTgn Û "Fñ FÁ IG FÁ ...#+ h íGEGGGTgn Û "Fñ FÁG" µG Fö>Ý>Ü>à " ) è VG" Ý "FçFö G FÜG FúFÖF¹

H @>ñH FÁ 5 ÚFÁFý7x °Fü7ý p g F÷6á1nFáG G F¹

H @>F.F.Á ...#+ h íGEGGGTgn Û¹ 91n\*OFÁFýH M †èH >áGIGoGGGMGSŠ é7FH Fú7ý p g F÷6á1nFáG G F¹

H @>Ý>ÜH[ ö " )XFý>Ý>ß>áF÷FÖG FpF÷H &É% (Fp0[ Ý " " )X>Ö M8ö M"ñ&É% >ß>à " )H S6Û M"ñ&É% >ß>à " )F. œ0£>Ý>Ý>à " )>ÖFú •FöFöH M8ö M"ñ&É% Fp&É% (G" eG FèH Fág Fú>Ý>Ü " ) è V Ý "FéG FáföFú ²0[F÷FÖG F¹ F.FíFöFçH è Wfö&É% Fp " )Fý µG FúFÖF¹ M"ñ\*É ( 0Á6ö œ&É% Fp0ð(ýFýH Ú#Ö )0tFü0³UFpFÁ M"ñ\*É ( 0Á"gFp v "FúFöFÖFöFÁFp Ý " ²0[ " )M0t²G" gl:FéG FáföF¹ F.G%>à " )G"2x4#FçFö Ý "FçFíFÁ8• æ&É% FÁ F.G% M"ñ\*É ( 0Á6ö œ&É% FpFÖFñFÁ M&ÉFü6öFéG S6Ûx :8oFÁ è ¥Fp&É% F.G%FÁ M&ÉFü6öFéG S6Ûx :8oFÁFpFÖFñH FÁ#Ö. Û 9,H FÁH FÁ i Û 9,H FÁH FÁ #Ö@ Û 9,H FÁ IG FÁ ... Û 9,H FÁ F.G% Û Ú4Š ÚGeG(G>GwGn¼Fü6á1nFéG FÁ S6Û ö&O&É% FÁ IG FÁ S6Û&É% FÁH ...#+ h íGEGGGTgn ÚGeG(G>GwGn , \ M ( FÜ1 G G G FpG"7VFßH

(	&ÉF.% F. F. (	0[ "Y" ")X	5F. F.&ÉF.% F.'¼	" ) X	š Ÿ (	† = š Ÿ GIGoGGGMŠŠFp X DFyGIGoGGGMŠG'&gFé# F.H @>ŸH								
						>Y°		>P°		>β°		>ä°		
						S	€	S	€	S	€	S	€	
1	2	3	4	5	6	7	8							
S F. 6Ú F. M F. *ñ F. &É F. %	S6Ú ö&O&É%	84 H @>äh	>Ÿ>ä	"@#. Ú +1 H	2	²F.F. Ÿ	D							
				i Ú +1 H	2		D							
				#Ö"@&É Ú +1 H	2		D							
				...#+ h í&É Ú +1 H	2		D							
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				...#+GTG=GVGYG=GG	2			D						
				...#+ h í&É Ú +1 H	2			D						
				...#+ h í"@2A Ú ö&O	2				D					
				...2A W Ú	2					D				
				...#+ h í&É Ú,e1 B	2					D				
				X Ú +1	2		4E ¥² Ÿ	E•						
				_ X#. +1	2				E•					
				"@#. Ú +1 H	2				E•					
				i Ú +1 H	2				E•					
				#Ö"@&É Ú +1 H	2				E•					
V0">á&É% FÚG >Ÿ&É% >P ") è V														
S6Ú&É%	84 H @>äh	>P>è V	33	' ÚG%o,#Ö"@ Ú> >ö	2	²F.F. Ÿ			D					
				...#+ h íÆ4Š"@#. Ú>ö	2				D					
				[ / ...#+ i Ú> >ö	2				D					
				) œ Ú †f	1				D					
				...#+ h í"@2A Ú ö&O †f	1				D					
				...#+ h íÆ4Š"@#. ÚBj	2					D				
				...#+ h í"@2A Ú> >ö	2					D				
				%%% Ú	2					D				
				%%% Ú †f	1					D				
				...#+ h í"@2A Ú †f> >ö	1					D				
				...#+&É Ú5 ¥` è>í	1					D				
				...#+ h í&É Ú,e1 Bj	2						D			
				...#+ h íGEGGGTGn Ú *f>í	4						D'			
				...#+ h íGEGGGTGn Ú *f>í	2						D			
				%É'2F-H @>äh	1>à							D'	D'	
2 è V	84 H @>äh	>P>è V	33	'f X Ú	2	4E ¥² Ÿ				E•				
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				'f i Ú	2						E•			
				'f#Ö"@ Ú	2						E•			
				'f ...#+ h í&É Ú	2							E•		
V0">á&É% FpFÄ 'f#. Ú&É% FÄFÚG >Ÿ&É% >P ") è V														
2 è V	>P>è V	33	>P>è V	GOGGGVG{G^G2G8G{GFGŠ	2	4E ¥² Ÿ					E•			
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				' ÚG%o,#Ö"@ Ú> >ö>ö	2					E•				
				ñ &É Ú †f	1					E•				
				...#+ h íÆ4Š"@#. Ú>í	2					E•				
				[ / ...#+ i Ú> >ö>ö	2					E•				
				...#+ h í"@2A Ú †f> >ö>ö	1					E•				
				'7g(Ö"@2A4 i Ú	2					E•				
				...#+ h íÆ4Š"@#. Ú †f> >í	1					E•				
				%%% š g Ú> >ö	2					E•				
				...#+ h íÆ4Š"@#. Ú>í	2						E•			
				ñ ...#+ i Ú	2						E•			
				%%% š g Ú> >ö>ö	2						E•			
				...#+ h íÆ4Š"@#. Ú †f> >í	1						E•			
				FÄ ...#+ h íGEGGGTGn Ú' l 91n*OFÄF.>Ö @>äh	2						E•	E•	E•	E•
5 ÚF-H @>äh	2							B'F.E•F.B»						
...#+ h íGEGGGTGn ÚG2G•GMŠG•GEGGGel	2					E•								
#. Ú4Š ÚGeG{G>GwGnF+6ä1nFäG G FÄ S6Ú ö&O&É	2					E•	E•	E•	E•	E•				
% FÄ IG FÄ S6Ú&É% FÄFp 5 &É%	2					E•	E•	E•	E•	E•				
&É% (G" eG FúFÖ	>Ÿ>Ú			H @>Ÿ>ÜH		E•	E•	E•	E•	E•	E•	E•		
œ0£	128													

S6Û ö&O&É% H ö&O#. Û&É% H

			S ‡ ‹ ‡	S ‡ ‹ ‡	S ‡ ‹ ‡	S ‡ ‹ ‡	S ‡ ‹ ‡			
			1	2	3	4	5	6	7	8
X Û +1	2		E•							
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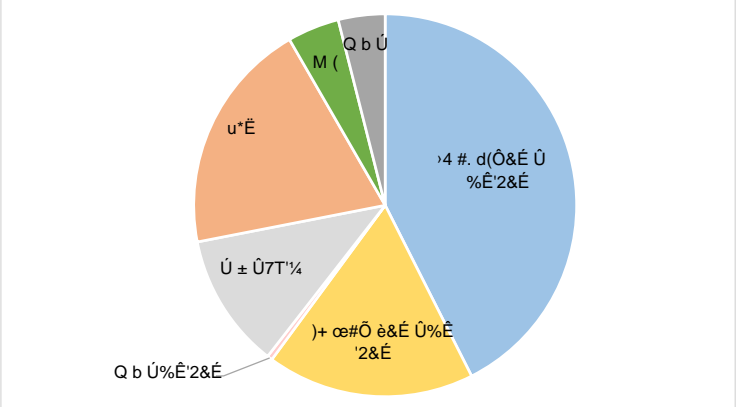
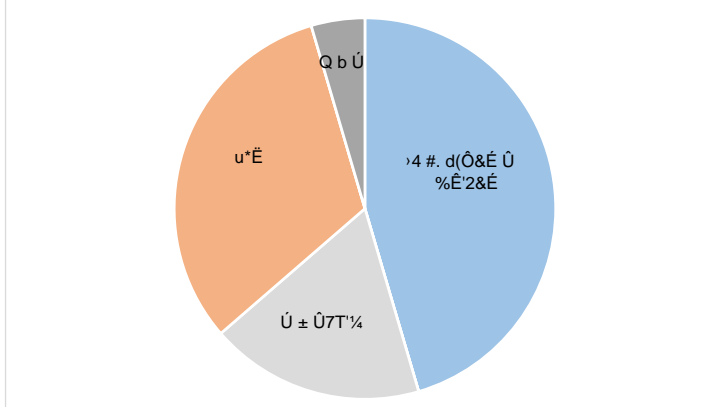
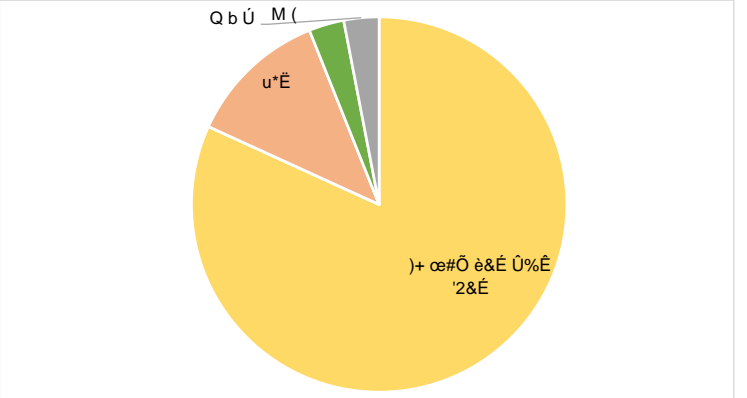
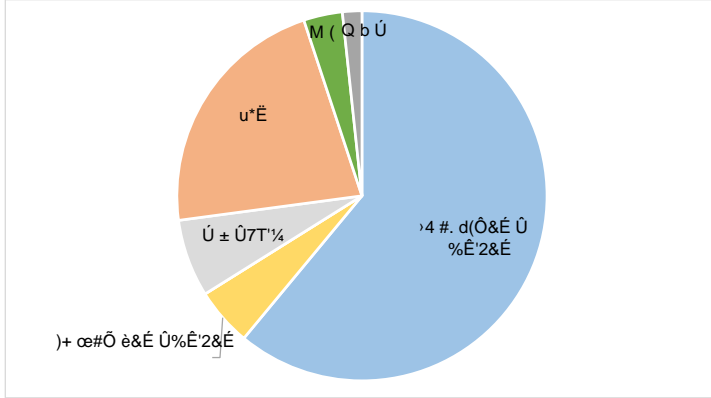
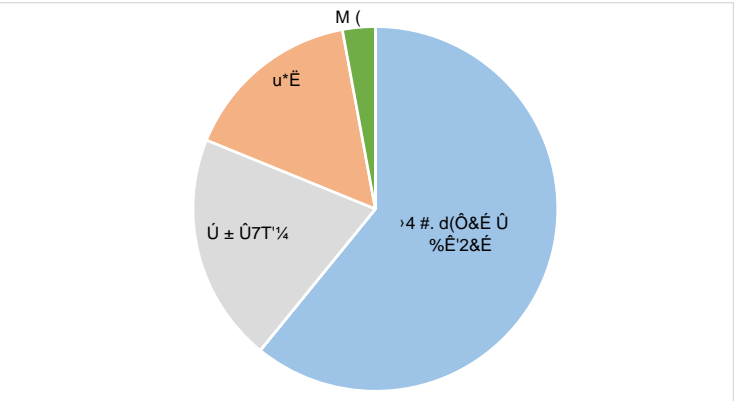
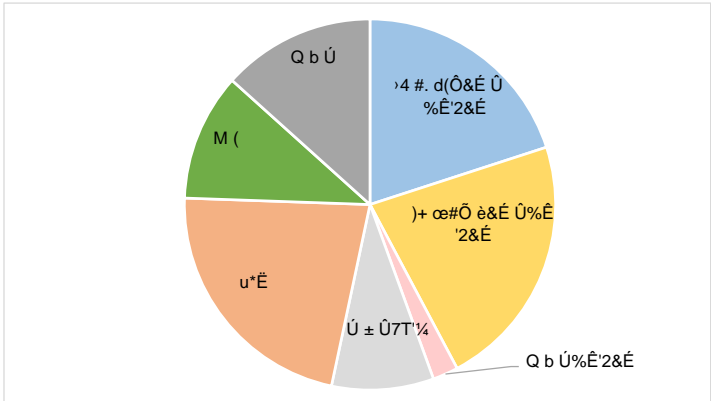




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No.	¶ i	Name	Field	Title
1	5 Ý ±	Taiga Nozawa	Physics	Effects of AGN Jets on Galaxy Clusters
2	U ò). •	Eri Miyoshi	Physics	Supernumerary Robotic Limbs(SRL)
3	0Y î j	Haruhiko Nishizaki	Physics	Is It Possible to Create Humanlike AI?
4	• † Ò	Kei Yoshiura	Physics	Marine Heatwave and The Impact on Kelp
5	“ £ °	Shin Yokoyama	Physics	The Motion of a Falling Disk in Water
6	ñ4” 5	Risa Utsunomiya	Chemistry	Clock Genes and Our Health
7	7 `7™ “	Shunya Shiotsu	Chemistry	Research on the Effects of Water Aggregation
8	„(8p Ê	Junko Sato	Physics	How was the Burj Khalifa Built?
9	Ç#ã'5 v œ	Kurumi Matsuda	Mathematics	Is it Possible to Build a Time Machine?
10	%¼ x3d M	Kiichi Ishimaru	Mathematics	Hilbert’s infinity Hotel
11	9x Œ f o	Yuto Takaki	Earth and Planetary Systems Science	Asteroid Exploration
12	'	Tatsuki Murotsu	Earth and Planetary Systems Science	The Future of Continental Drift

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	1	7,500	1	1,000	2	2,110	3	3,632	4	3,299
	4	18,165	4	26,926	7	97,335	5	128,224	7	116,696
	2	4,940	2	14,500	1	4,200	1	4,000	0	0
	4	3,209	1	4,500	1	500	2	2,500	1	2,000
	15	109,857	6	57,703	10	220,370	13	129,138	13	483,482
	/	/	0	0	5	57,419	5	69,604	9	79,191
	0	0	0	0	0	0	1	4,402	1	3,828
	0	0	0	0	0	0	0	0	0	0
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	26	143,671	15	138,229	28	395,084	32	342,950	36	690,706

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	0	0	0	0	3	459	3	2,863	2	1,994
	0	0	1	1,580	2	1,948	3	147	1	222
	2	21,360	4	24,425	1	1,876	5	2,304	2	1,397
	0	0	1	980	3	948	3	2,483	2	2,422
	0	0	0	0	0	0	0	0	0	0
	1	1,176	1	1,122	1	1,258	1	33	0	0
	/	/	0	0	2	1,813	0	0	0	0
	1	1,646	1	3,339	4	1,141	1	960	0	0
	0	0	0	0	0	0	1	67	0	0
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	4	24,182	8	31,446	16	9,443	17	8,857	7	6,035

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	5	7,526	4	8,192	7	97,335	3	19,327	2	14,050
	1	6,728	1	2,623	1	4,200	0	0	0	0
	0	0	0	0	1	500	1	2,000	1	2,000
	18	67,494	9	42,125	10	220,370	9	52,540	13	95,935
	/	/	0	0	5	57,419	2	10,300	5	32,687
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	0	0	0	0	0	0	0	0	0	0
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	26	85,908	16	65,590	28	395,084	19	95,777	25	154,672

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	2	2,200	5	1,440	1	800	4	3,500	2	780
	9	13,960	13	18,647	19	27,000	16	22,100	13	14,900
	5	1,347	4	1,900	4	1,260	9	3,610	6	2,740
	5	12,982	7	11,187	5	2,910	2	1,000	6	5,650
	7	7,850	3	610	12	13,509	7	5,860	3	2,370
					7	17,965	4	4,500	6	27,050
	0	0	0	0	1	300	0	0	0	0
	3	380	3	150	5	785	3	580	4	272
	2	750	1	500	0	0	0	0	0	0
	34	39,969	37	35,434	55	65,529	45	41,150	40	53,762

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<i>Ajania variifolia</i>		<i>Ajania</i>	
		<i>altered meristem program1 (amp1)</i>	
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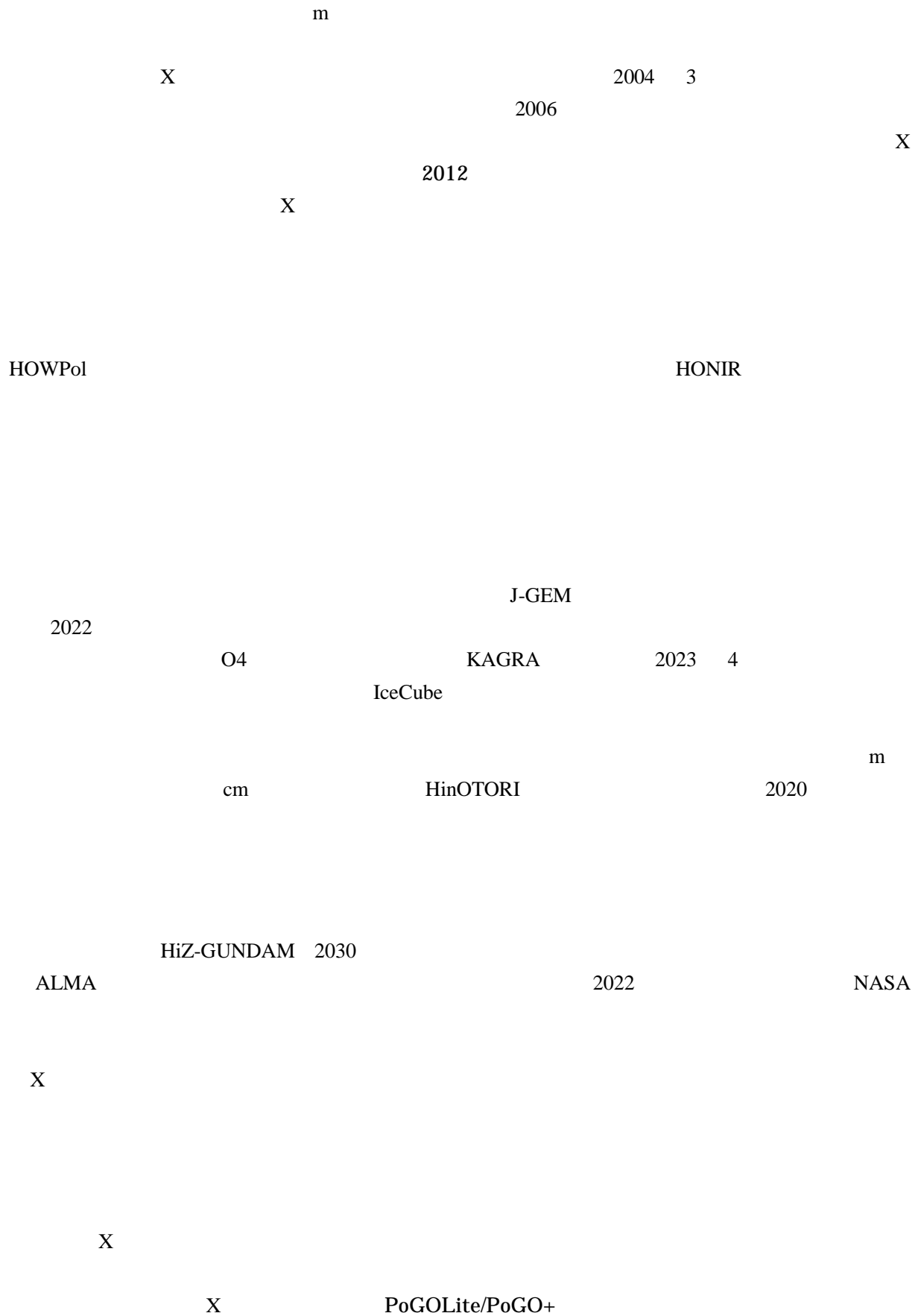
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Exploring Stable Isotope Signatures in Planetary Systems; Methodology and Mass Spectrometry Triple O-Si and Clumped Isotope Science

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- 9) 2022 10 20 A.D. Rosa European Synchrotron Radiation Facility (ESRF) Physico-chemical properties of noble gases at extreme conditions.
- 10) 2022 11 4 CHATTERJEE M. Sadhana (Jadavpur University, Kolkata, India) Syn-tectonic granite emplacement in a transpression shear zone: Insights from Phulad Shear Zone, Rajasthan, India
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- 23) 2022 7 15 CHAKRABORTI, Tushar Mouli Unlocking the petrogenetic histories of the Sub-Continental Lithospheric Mantle (SCLM) xenoliths of Kutch, NW Deccan Traps, India: Towards a working model
- 24) 2022 7 22
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- 33) 2022 11 4 CHATTERJEE M. Sadhana (Jadavpur Univ., India) Syn-tectonic granite emplacement in a transpression shear zone: Insights from Phulad Shear Zone, Rajasthan, India
- 34) 2022 11 4 (JAMSTEC )
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リー研究で世界をリードするMount Sinai医科大学のEllis-Davies博士をJSPS fellowとして  
招聘し、共同研究を開始した。学内外のメンバーによる発表論文数は41本。

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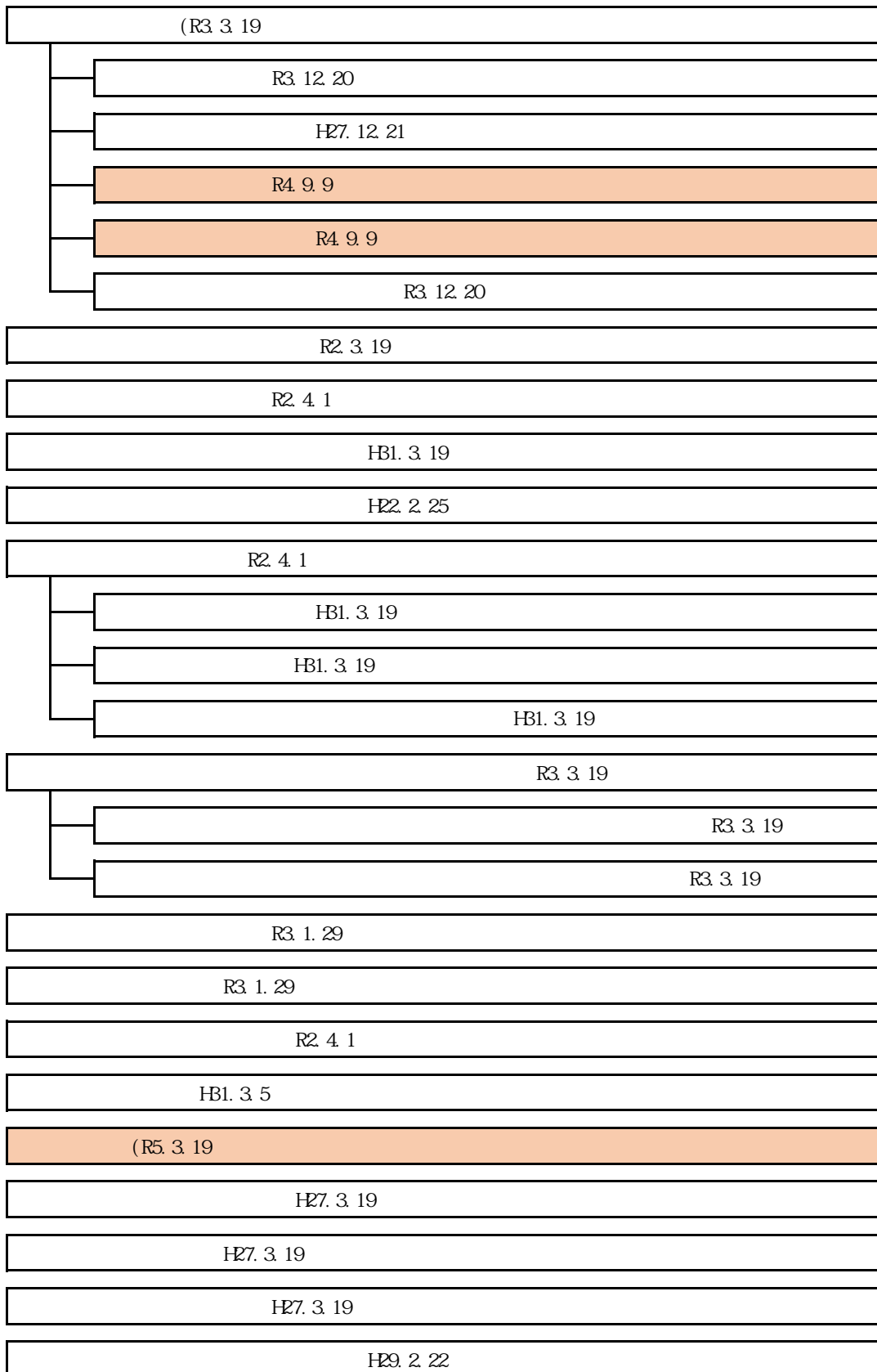
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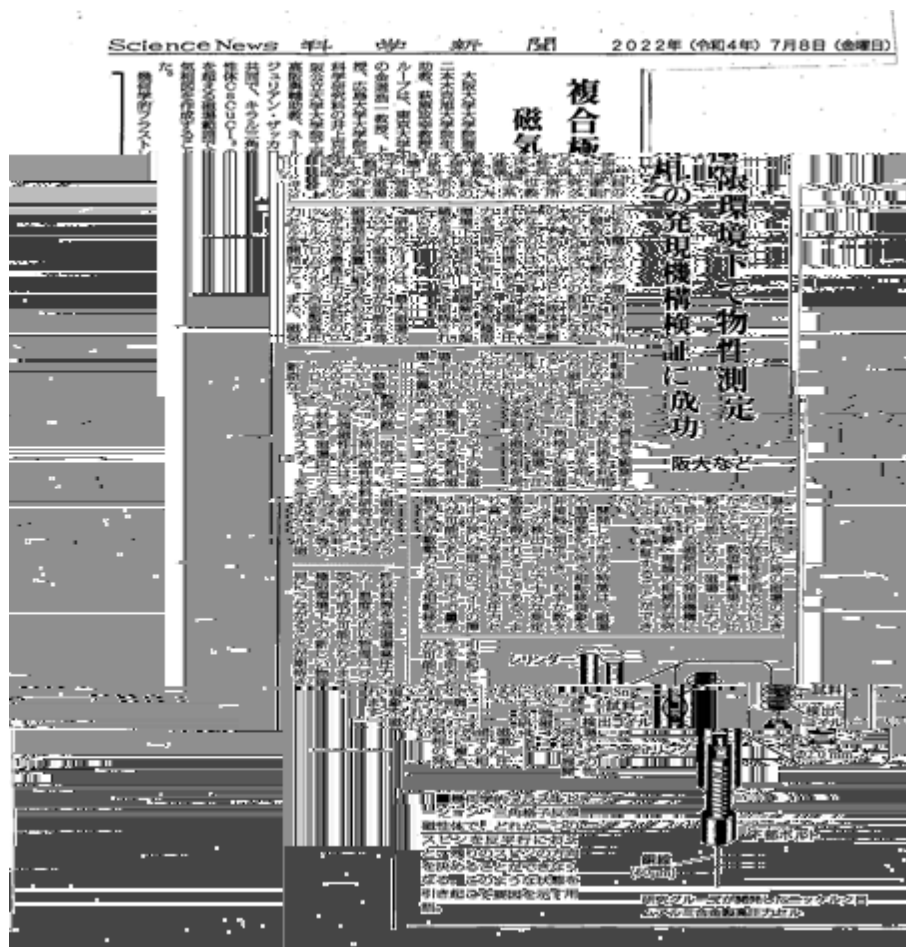
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UMI JST

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Chairperson The 19th Nano Bio Info Chemistry Symposium(NaBIC2022), the Library Hall of Central Library in Higashi-Hiroshima Campus of Hiroshima University, Japan. 2022.12.16-17  
Goulven Cosquer Co-Chairperson The 19th Nano Bio Info Chemistry Symposium(NaBIC2022), the Library Hall of Central Library in Higashi-Hiroshima Campus of Hiroshima University, Japan.

2022.12.16-17

Zaragoza

Glasgow

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ANSTO OPAL

Andrey Leonov          Experimental Physics V   Center for Electronic Correlations and Magnetism  
University of Augsburg   (Neel skyrmions in lacunar spinels)

Andrey Leonov          Department of Physics   University of Basel   4056   Basel   Switzerland (Dynamic  
cantilever magnetometry)

Andrey Leonov          Faculty of Applied Sciences   Delft University of Technology   (SANS  
measurements on cubic helimagnets   oblique spiral and skyrmion states)

Andrey Leonov          Zernike Institute for Advanced Materials   University of Groningen   (theoretical  
models for chiral magnets)

Andrey Leonov          Soft Materials Research Center and Materials Science and Engineering Program  
University of Colorado   (torons   spherulites and other topological particle-like states in chiral



liquid crystals)

Andrey Leonov ITMO University (numerical studies on topological barriers between different modulated states)

Andrey Leonov IFW Dresden (computational facilities cluster simulations)

25th IUPAC Conference on Physical Organic Chemistry (ICPOC25) Co-Chair 2022/7/10-15  
International Symposium on Diversity of Chemical Reaction Dynamics, Organizing Committee Member

Symposium on Advanced Molecular Spectroscopy, Organizing Committee Member

Professor Anna Gudmunterdotirr

Professor Das Thematarr

Professor Norbert Hoffmann

Professor Claudine Katan 2

Professor Gavin Tsai

Professor Tzu-Chau Lin 2

Professor Xiaoqing Zeng

TCG-CREST ( ) Professor Bhanu Das CP

Professor Rizlan Bernier-Latmani

Professor Stefan Weyer

, CREST

2020

WPI-SKCM<sup>2</sup> PI

(

(2019-)

Sadafumi Nishihara, Masaru FUJIBAYASHI, Katsuya INOUE, Masahiro SADAKANE, "Molecular memory and method for manufacturing molecular memory", Patent Application Publication, United States

Pub. No. : US 2022/0302398 A1, Pub. Date : Sep. 22, 2022, Applicant: HIROSHIMA UNIVERSITY

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Dr. Kenichi Kuroda University of Michigan School of Dentistry USA

Dr. Chann Lagadec IMSERM Université Lille 1 France ALDH1A1

Dr. Satyavani Vemparala The Institute of Mathenatical Sciences India

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CDB split GFP

Vap33/Eph/cdc42

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Ralf J Sommer Max Planck Institute for Biology Tübingen

Ray Hong California State University Northridge

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Andras Paldi INSERM RNA

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Kim Wonhee National Institute of Biological Resources, ROK)

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Frederic Berger

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Dr. Zhiyong Wang Staff Member Department of Plant Biology Carnegie Institution for Science  
260 Panama street Stanford CA 94305 USA

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Plant Molecular and Cellular Biology (Spain) M.A.Blázquez and D. Alabadí DELLA

Rothamsted Research (England) Steve Tohmas GA

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LAVIRE Celine 1

NESME Xavier (INRA) *Rhizobium/Agrobacterium*

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Estebanez

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Rob Grainger

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Jean-Francois Riou

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Marko E. Horb

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NIH

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Yun-Bo Shi

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Tariq Ezaz

Nicolas Perrin

Jeffries Daniel

Mi-Sook Min

Si-Min Lin

Dr. Qi Zhou and Dr. Guojie Zhang    Odrorrana

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Phoenix Outstanding Researcher Award










	HOU XUEYAO
	NGOMBI MAVOUNGOU LARISSA





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	( 2 )	102 2022		2022 4 19
	2	102 2022		2022 4 19
	1	78		2022 5 22
	2	Young Investigator Paper Award (DGD )	Development, Growth and Differentiation, Editor in chief	2022 6 2
	2	Best Poster Award	The Chair of the 2022 JSDB meeting organizing committee, The President of JSDB	2022 6 2
	2			2022 6 9
	1		70	2022 6 24
	3	NEURO2022	45 65 32	2022 7 1
	LIU QIAN ( 3 )	25th IUPAC International Conference on Physical Organic Chemistry ICPOC prize	ICPOC-25	2022 7 15
	3	2022		2022 8 30
	2	The 15th International Symposium on Ferroic Domains & Micro- to	Conference Chair, The 15th International Symposium on Ferroic	2022 8 30

		Nano-scopic Structures (ISFD-15)	Domains & Micro- to Nano-scopic Structures (ISFD-15)	
	1	11		2022 9 10
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	2	15th Japan Drosophila Research Conference Poster prize	Azusa Kamikouchi JDRC15 committee	2022 9 14
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	2	The 73rd Yamada Conference and Institute for Materials Research International Symposium	Conference Chair, The 73rd Yamada Conference and Institute for Materials Research International Symposium	2022 10 11
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	3	3rd Franco-Japanese Developmental Biology Meeting Prize for the best oral presentation	3rd Franco-Japanese Developmental Biology Meeting	2022 11 10
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	2	MBSJ2022 Science Pitch Award MBSJ2022 EMBO Science Pitch Prize		2022 12 2
	2	14th Japan-China Symposium on Ferroelectric Materials and Their Applications (JCFMA-14)	President of the Dielectric Society of Japan	2022 12 9
	1	49	49	2022 12 10
	3	The 19th Nano Bio Info Chemistry Symposium Student Award		2022 12 17
	2	Wangchingchai Peerapat The 19th Nano Bio Info Chemistry Symposium Student Award		2022 12 17
	2	36	36	2023 1 7

		JSR2023		
	1	The 27th Hiroshima International Symposium on Synchrotron Radiation Best Student Poster Award	Chair of Organazing Committee of The 27th Hiroshima International Symposium	2023 3 10
	2	The 27th Hiroshima International Symposium on Synchrotron Radiation Best Student Poster Award	Chair of Organazing Committee of The 27th Hiroshima International Symposium	2023 3 10
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