

Supplementary Online Content

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eTable 1. Network Measures by Market and Specialty Combined After Sampling White Patients

eTable 2. Distance Measures by Market and Specialty Combined After Sampling White Patients

eFigure 1. Distribution of States With Included Markets

eFigure 2. Physician Networks Visualized by Patients' Race

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Network Measures by Market and Specialty Combined After Sampling White Patients

Market	SPEC	PCP Degree All	Black *	White*	Specialist Degree All	Black*	White*	PCP Strength	Black*	White*
Chicago IL	ALL	5.6	66%	73%	145.6	59%	60%	1.6	86%	88%
Memphis TN	ALL	9.6	67%	74%	270.1	52%	74%	2.9	78%	80%
Baton Rouge LA	ALL	8.0	67%	76%	200.0	54%	78%	2.6	76%	78%
Norfolk VA	ALL	9.5	67%	73%	301.6	51%	78%	2.6	77%	79%
Lafayette LA	ALL	5.7	68%	77%	184.5	52%	84%	3.1	72%	78%
Tallahassee FL	ALL	4.8	75%	80%	133.6	56%	83%	3.6	70%	72%
Manhattan NY	ALL	4.6	67%	75%	145.4	28%	84%	1.5	90%	88%
Jacksonville FL	ALL	8.2	67%	73%	253.9	41%	83%	2.3	78%	82%
Miami FL	ALL	6.7	66%	72%	204.1	33%	82%	1.7	85%	88%
San Bernardino CA	ALL	3.4	76%	74%	117.2	36%	83%	1.8	82%	85%
Buffalo NY	ALL	4.6	67%	75%	138.7	30%	84%	1.7	86%	85%
Huntsville AL	ALL	4.9	72%	76%	189.2	40%	87%	1.8	81%	82%
ALL	CARDIO	12.4	64%	73%	261.0	47%	81%	2.7	77%	79%
ALL	PULMN	5.6	73%	78%	262.2	51%	81%	2.9	74%	79%
ALL	GASTRO	5.3	70%	76%	195.1	45%	80%	2.3	80%	80%
ALL	ORTHO	4.8	63%	76%	102.7	34%	83%	1.6	85%	89%
ALL	GENSURG	4.5	73%	71%	115.6	46%	76%	2.0	83%	82%
ALL	NEURO	5.1	70%	74%	205.4	43%	80%	2.1	81%	82%

* Black and White refer to the percentage of the overall measure present in the networks constructed using Black or White patients only. Degree is the number of ties between PCPs and specialists. Strength is the number of shared patients. All represents the average across physicians in each of the six specialties.

eTable 2. Distance Measures by Market and Specialty Combined After Sampling White Patients

Market	SPEC	PCP to Specialist Distance	Black*	White*	Patient to Specialist Distance	Black*	White*
Chicago IL	ALL	2.4	107%	94%	10.6	97%	103%
Memphis TN	ALL	8.8	98%	101%	17.4	95%	104%
Baton Rouge LA	ALL	6.7	100%	100%	13.7	98%	102%
Norfolk VA	ALL	9.2	99%	101%	15.0	95%	105%
Lafayette LA	ALL	7.8	96%	103%	12.7	90%	107%
Tallahassee FL	ALL	6.1	95%	105%	18.8	98%	101%
Manhattan NY	ALL	2.4	97%	102%	8.1	102%	98%
Jacksonville FL	ALL	9.7	98%	102%	17.8	96%	103%
Miami FL	ALL	7.1	102%	98%	17.4	100%	99%
San Bernardino CA	ALL	7.7	101%	99%	21.9	97%	102%
Buffalo NY	ALL	6.0	95%	105%	12.9	59%	135%
Huntsville AL	ALL	5.7	96%	103%	14.7	88%	110%
ALL	CARDIO	7.3	99%	101%	15.6	92%	106%
ALL	PULMN	5.8	100%	100%	15.4	91%	107%
ALL	GASTRO	6.3	98%	102%	15.2	92%	107%
ALL	ORTHO	7.5	97%	102%	14.4	95%	104%
ALL	GENSURG	6.2	99%	100%	15.0	99%	100%
ALL	NEURO	6.8	99%	101%	15.0	89%	109%

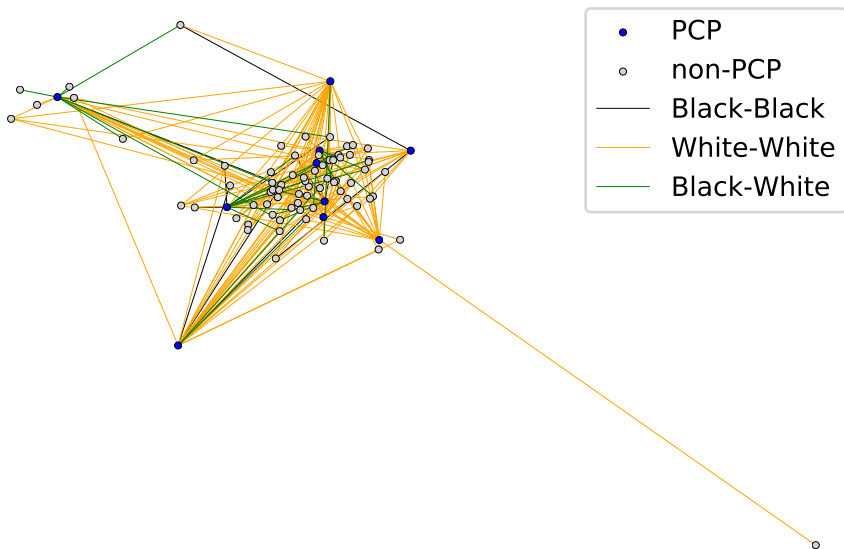
* Black and White refer to the percentage of the overall measure present in the networks constructed using Black or White patients only. All represents the average across physicians in each of the six specialties.

eFigure 2. Physician Networks Visualized by Patients' Race

Hospital Referral Regions (1-12) are Buffalo, Chicago, Huntsville, Jacksonville, Lafayette, Lynchburg, Manhattan, Memphis, Miami, Norfolk, San Bernardino, and Tallahassee. Specialties (1-6) are cardiology, gastroenterology, general surgery, neurology, orthopedic surgery, and pulmonary disease.

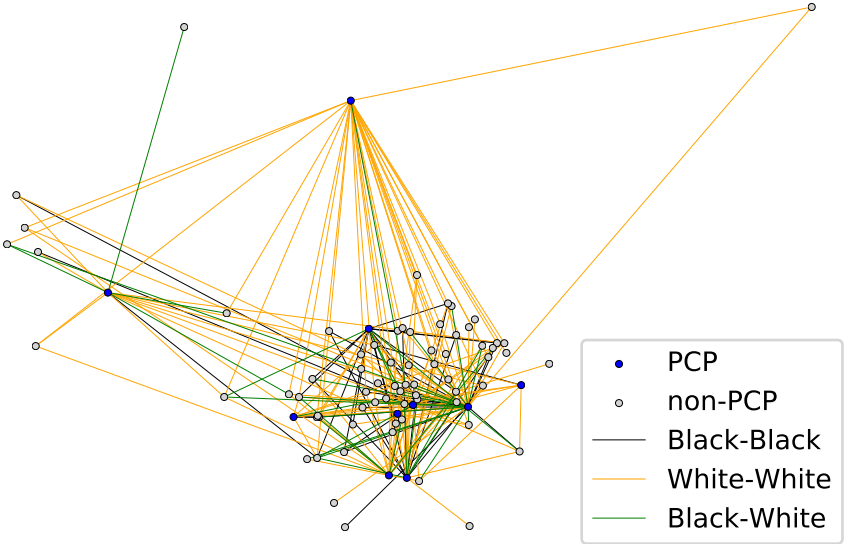
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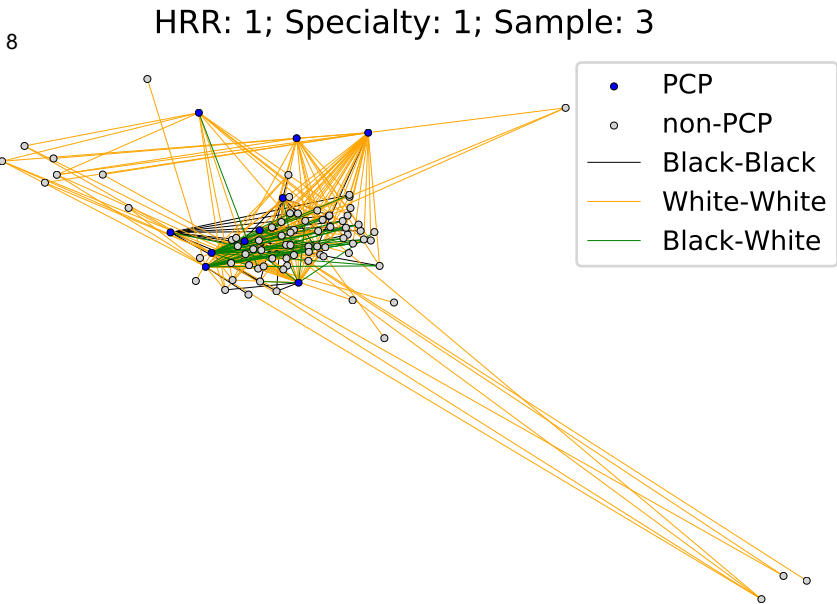
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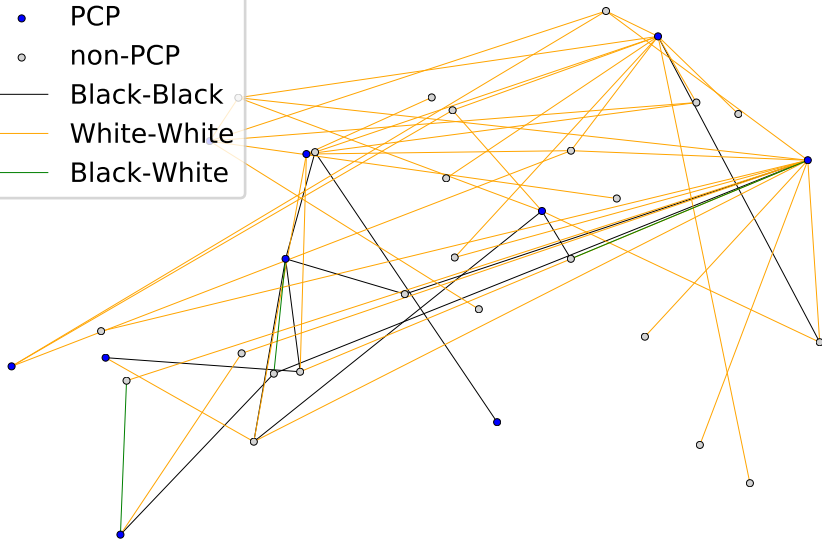
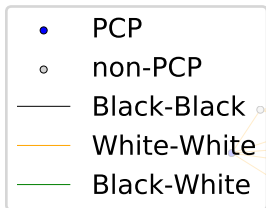
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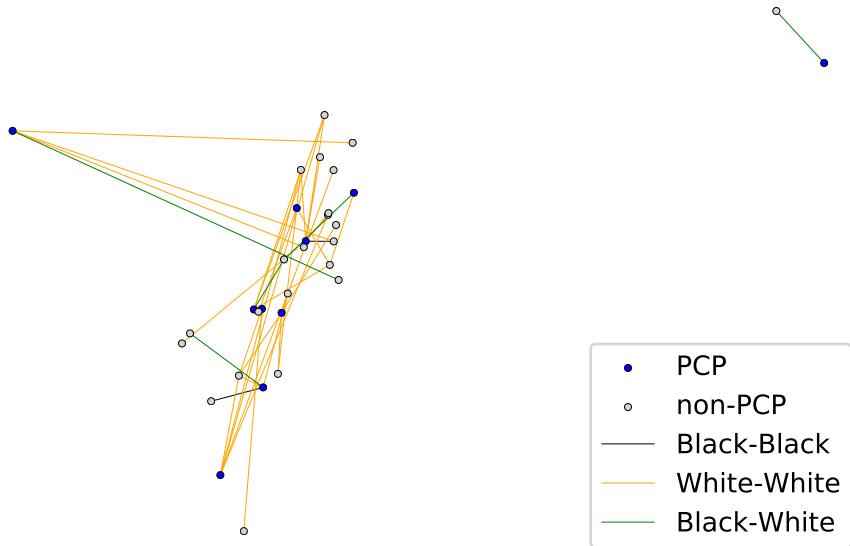
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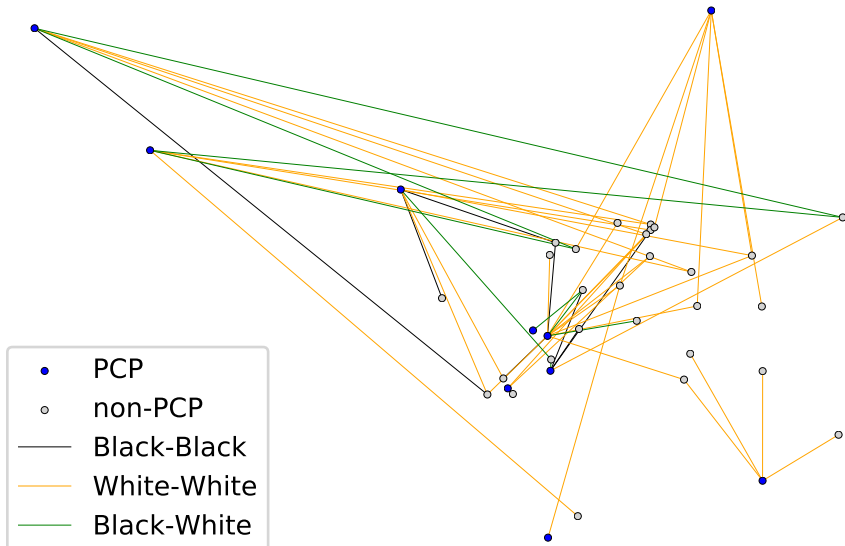
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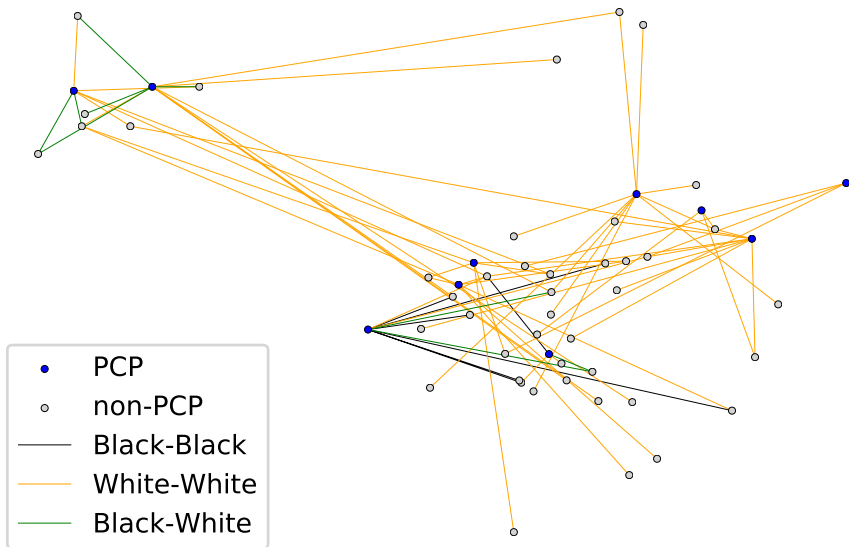
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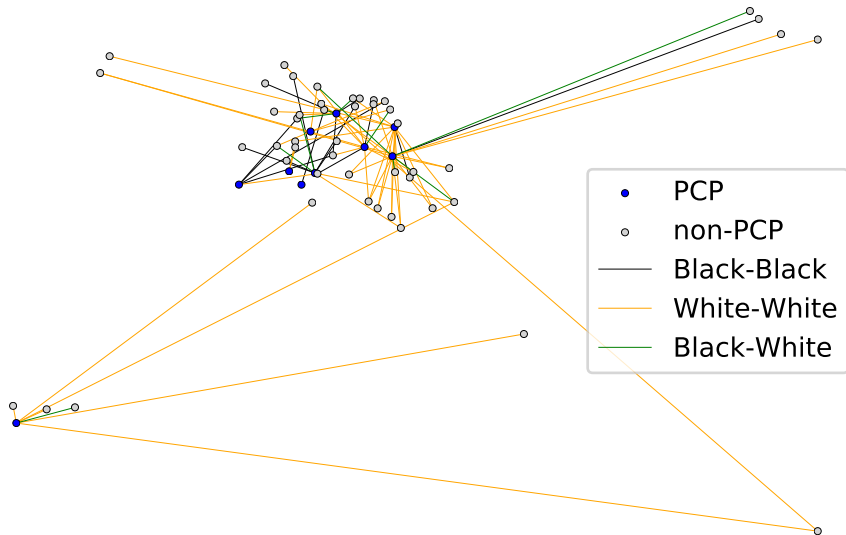
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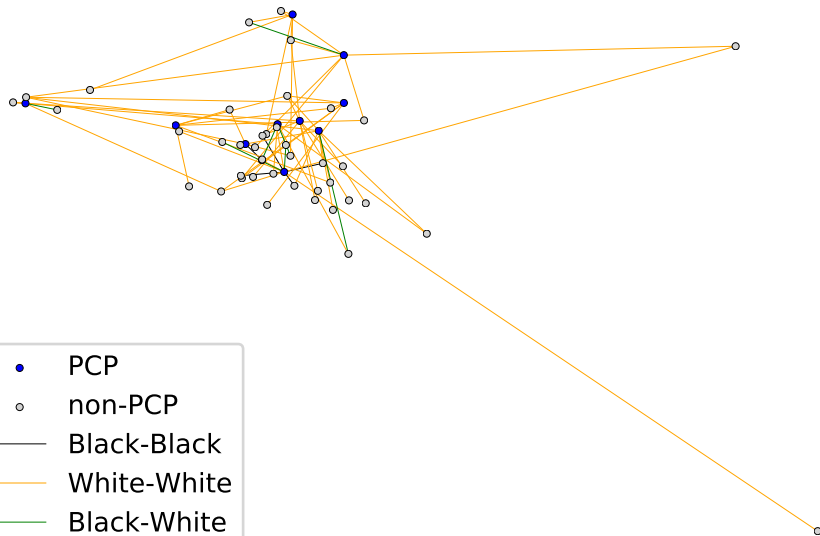
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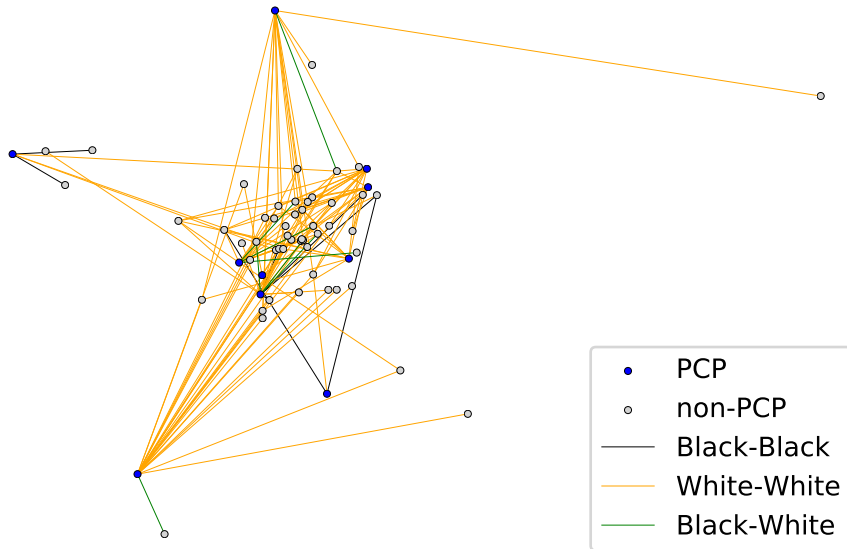
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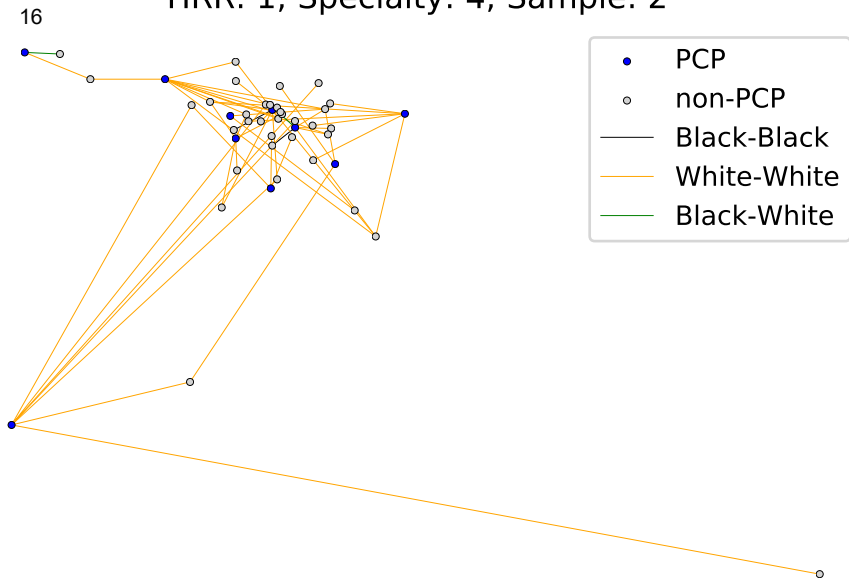


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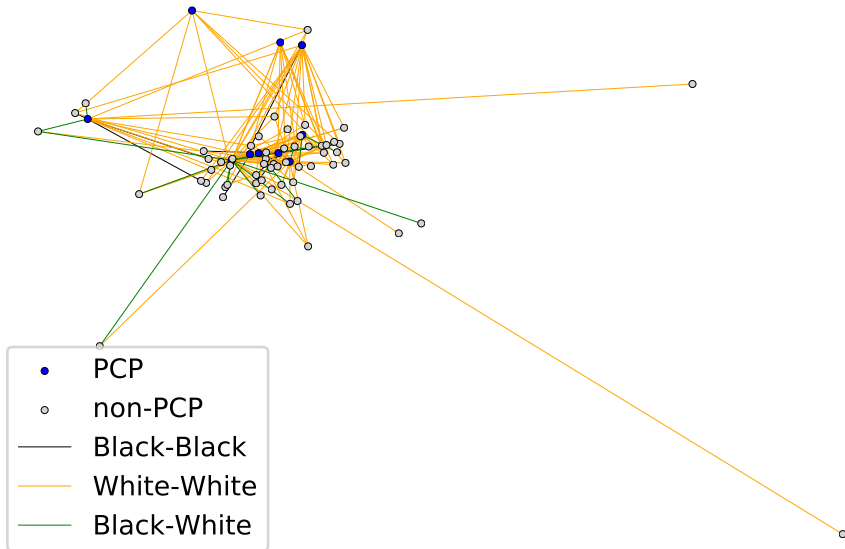


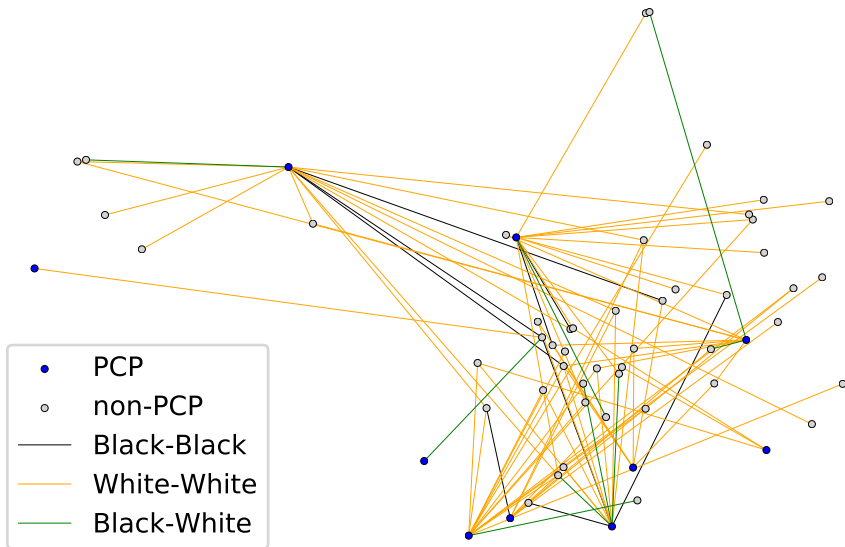
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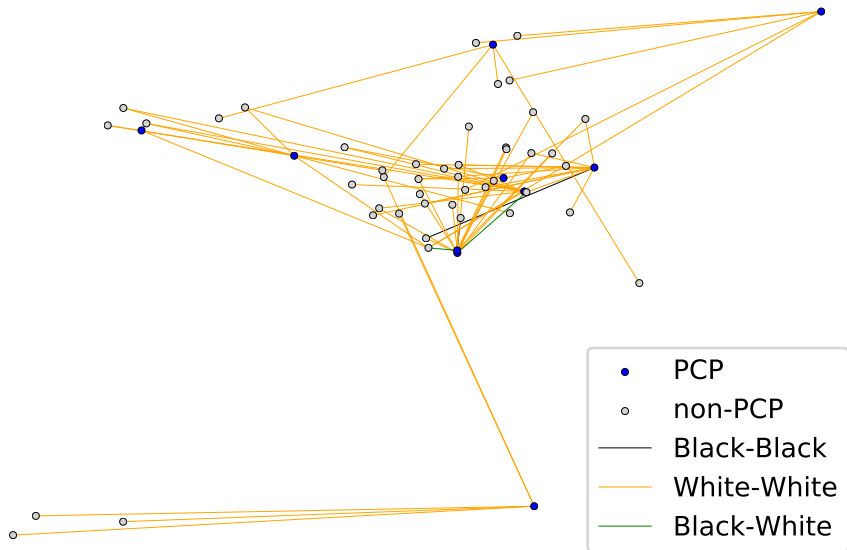
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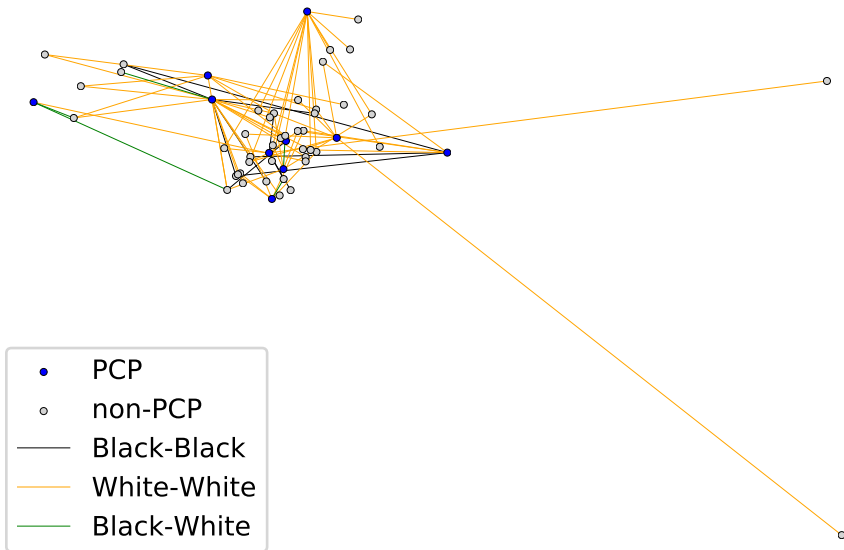


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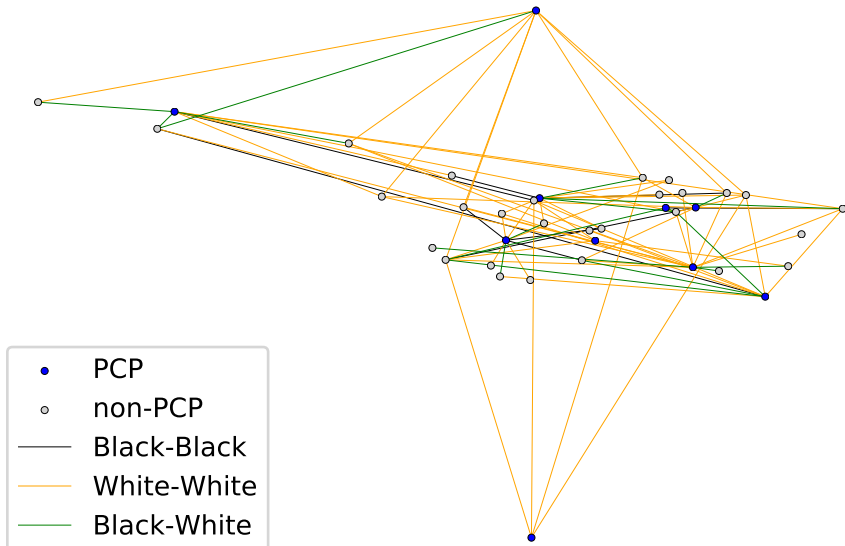
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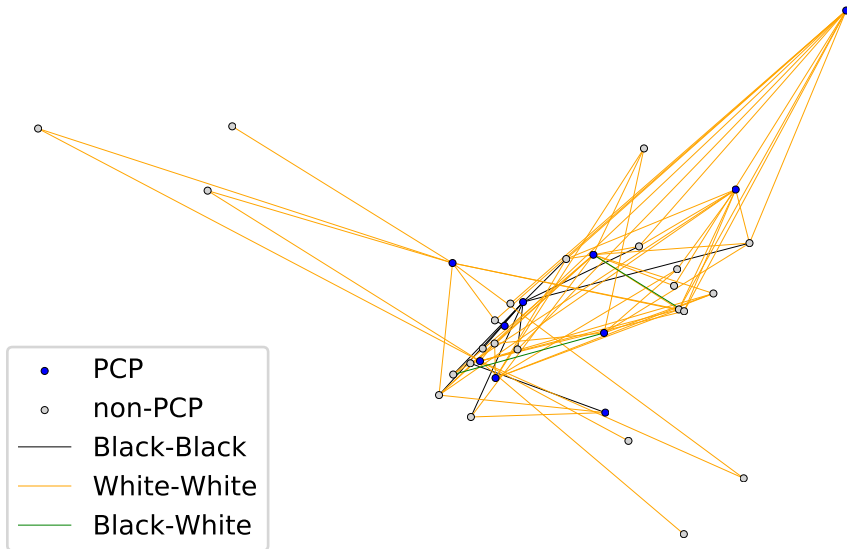
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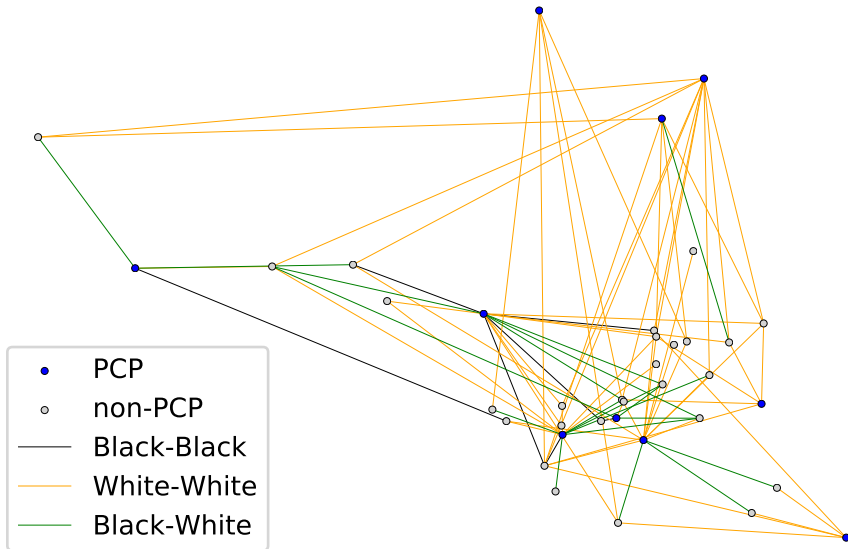


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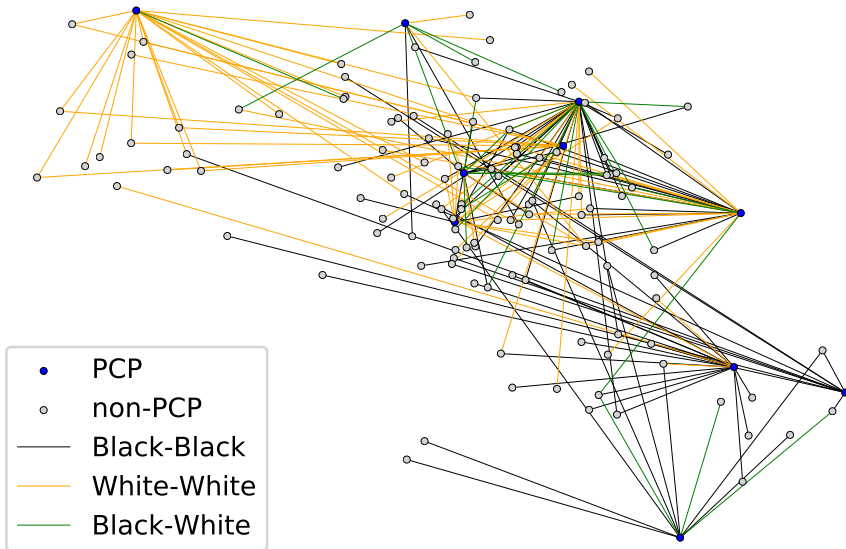




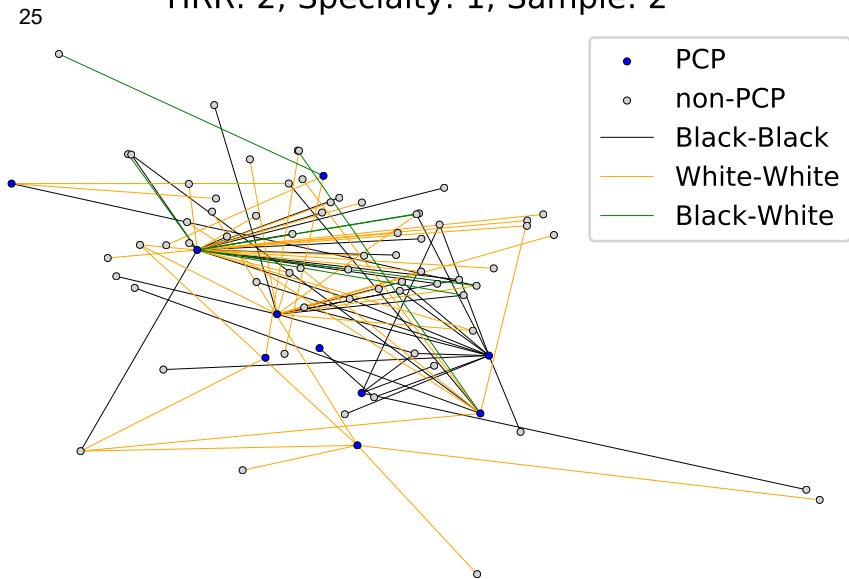


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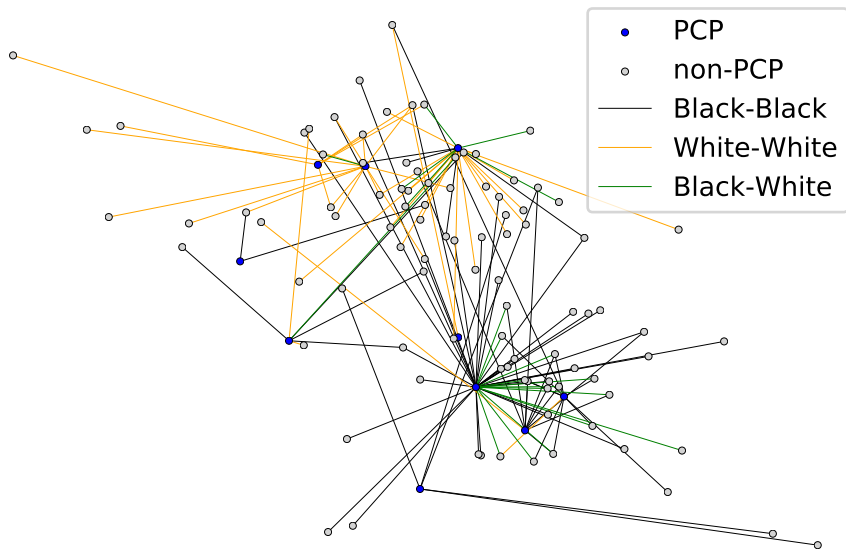


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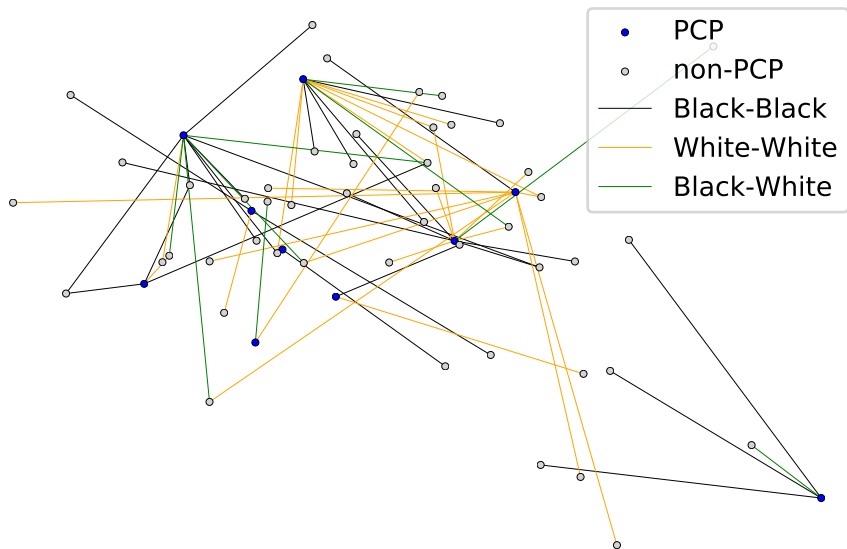


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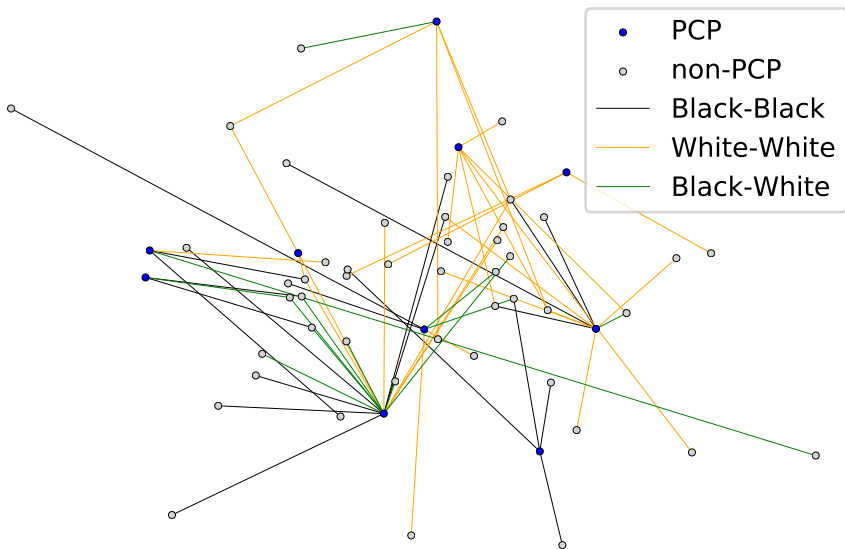
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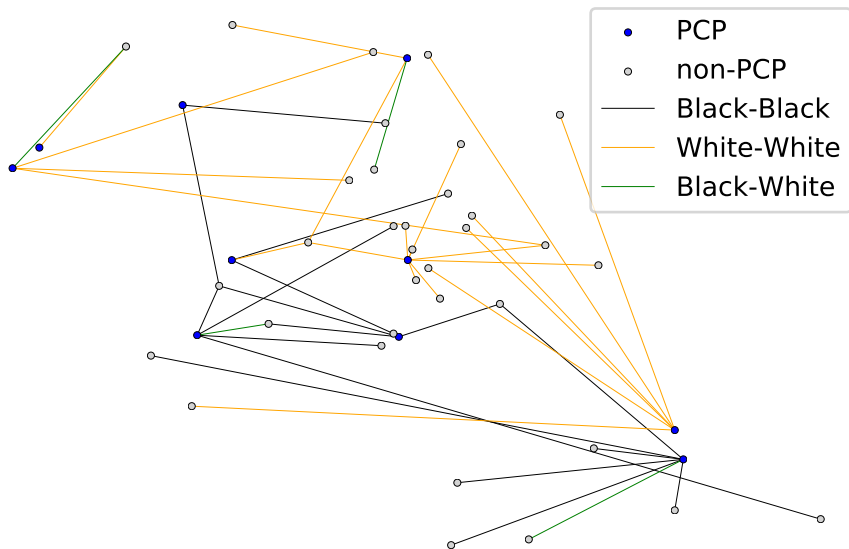
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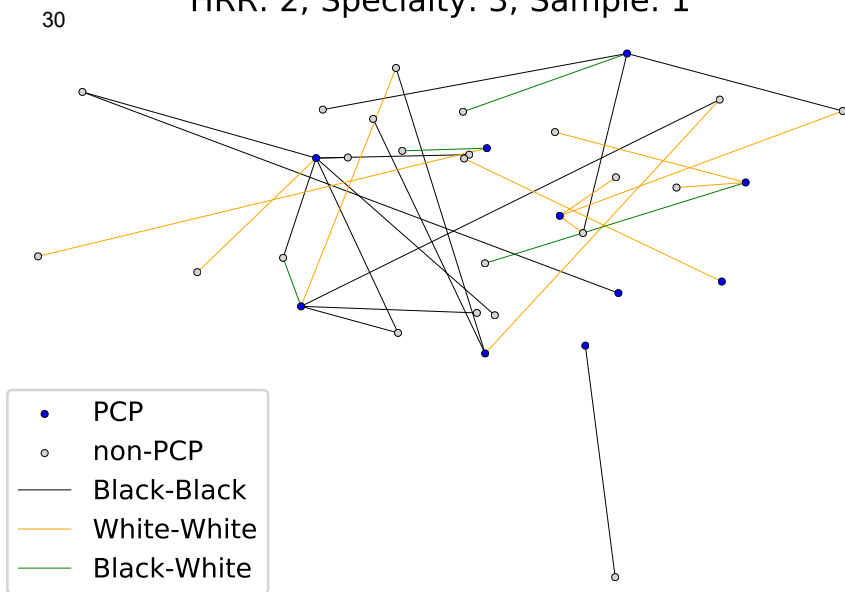
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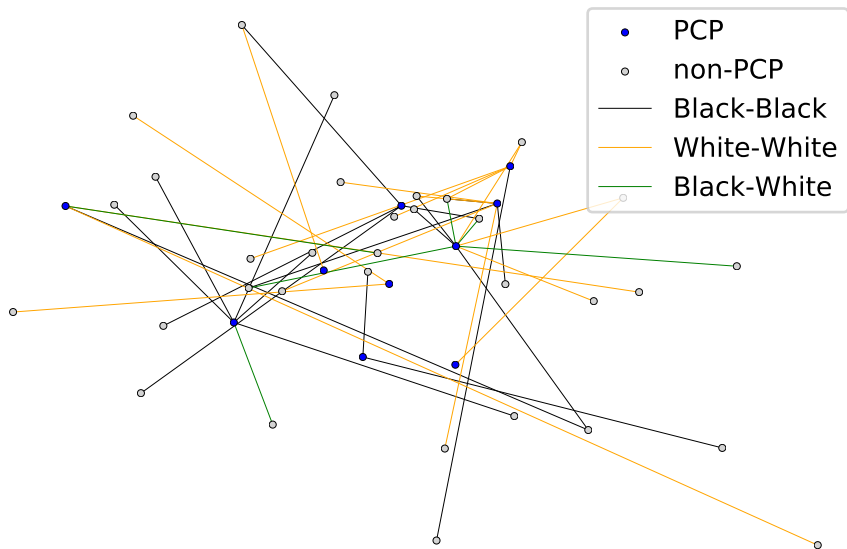
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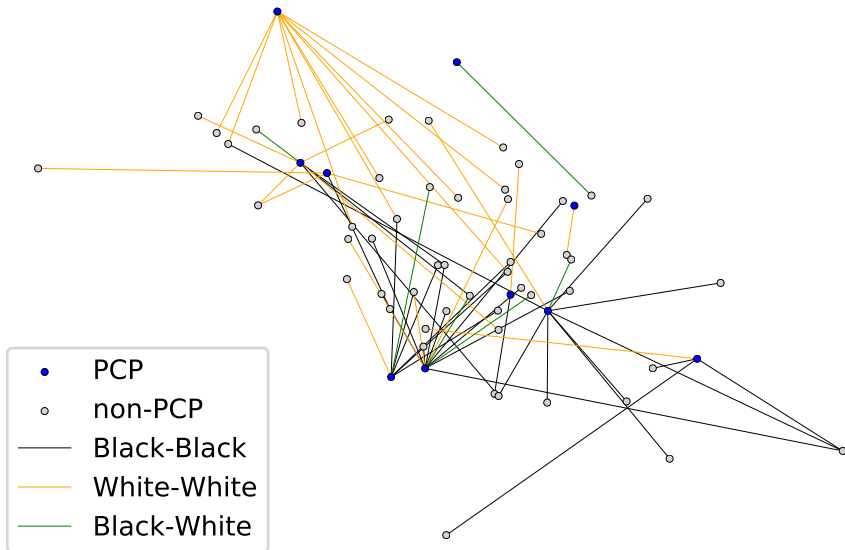


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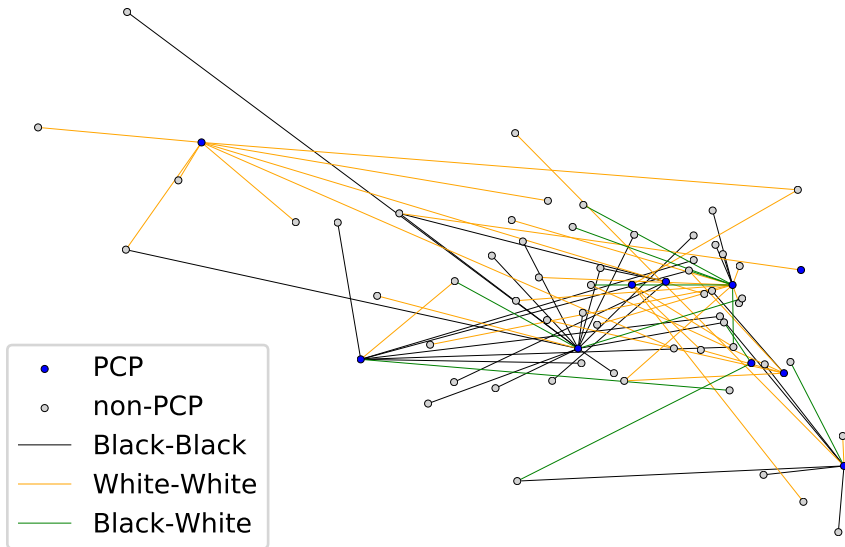
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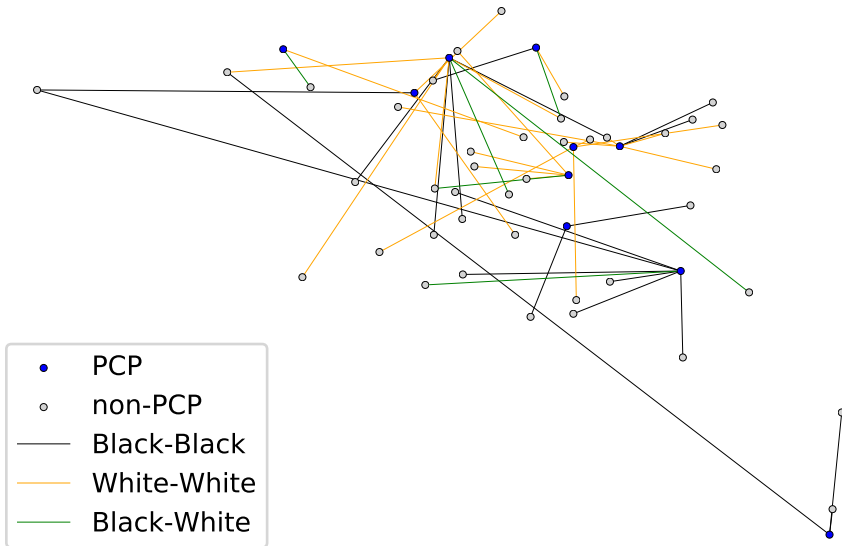




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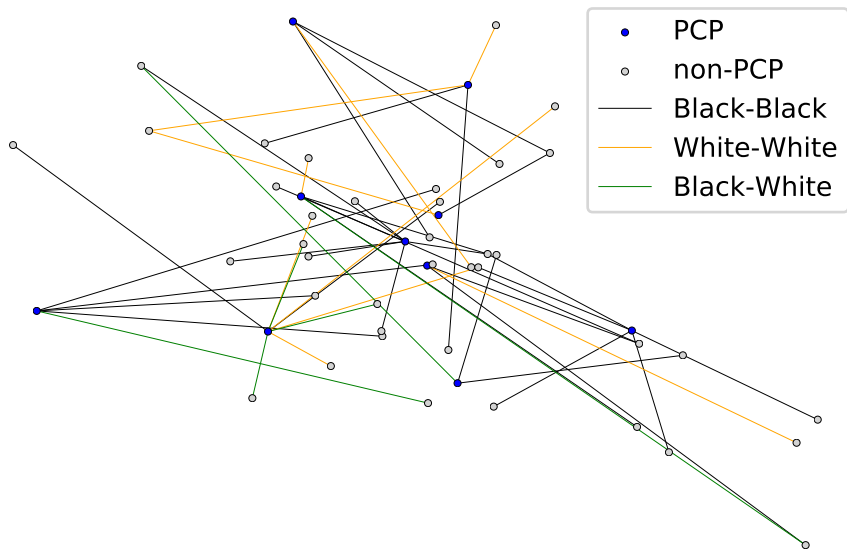
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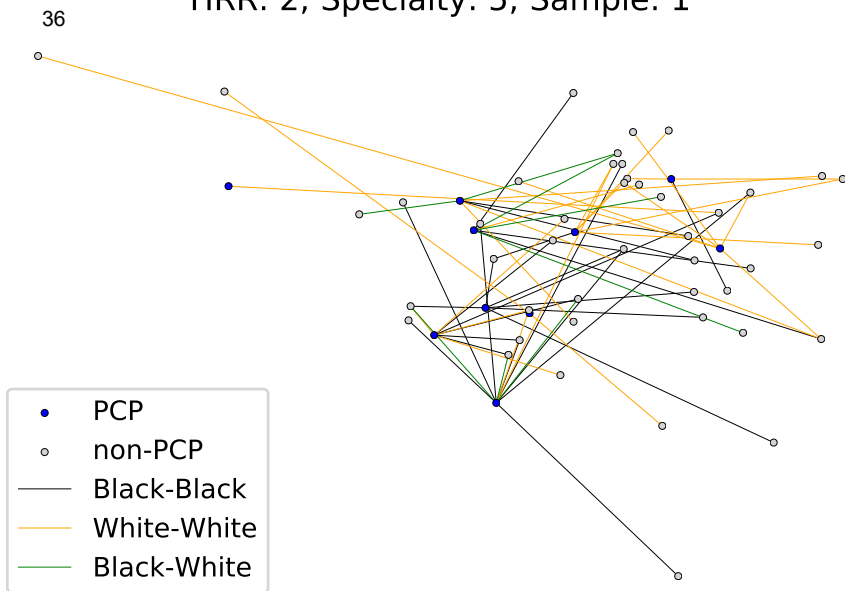


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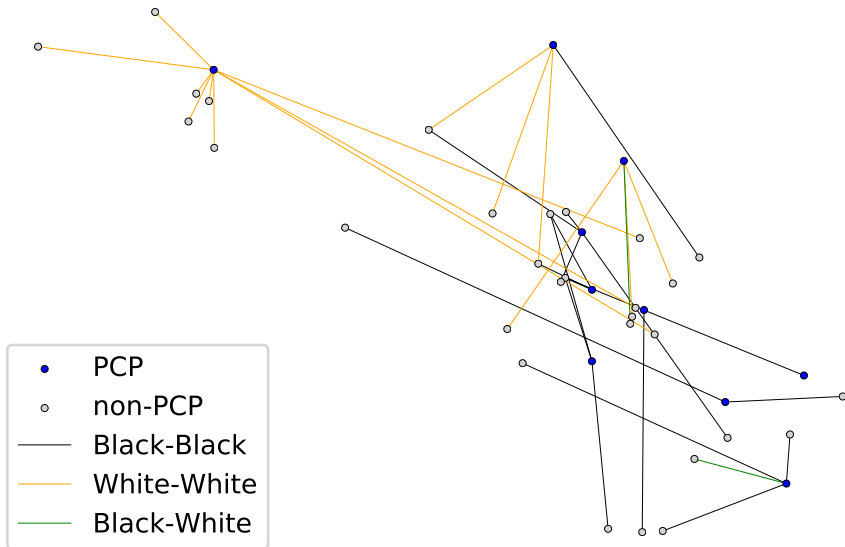


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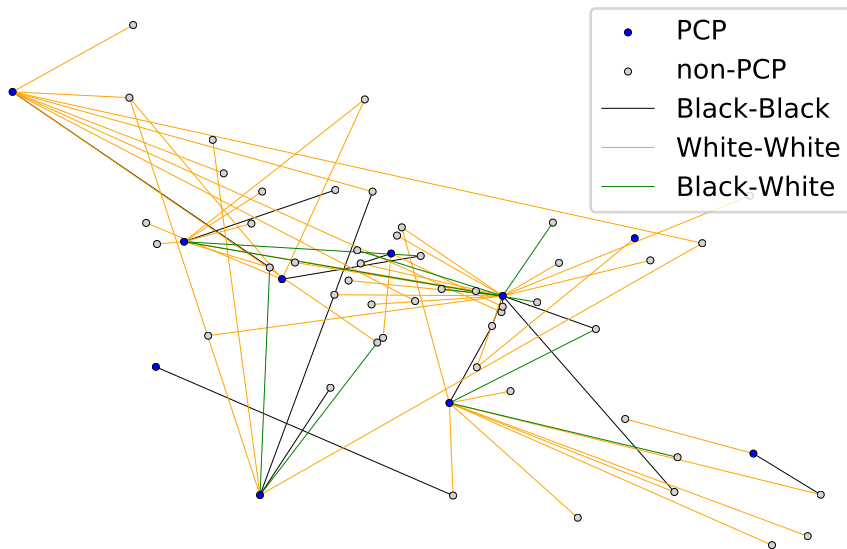
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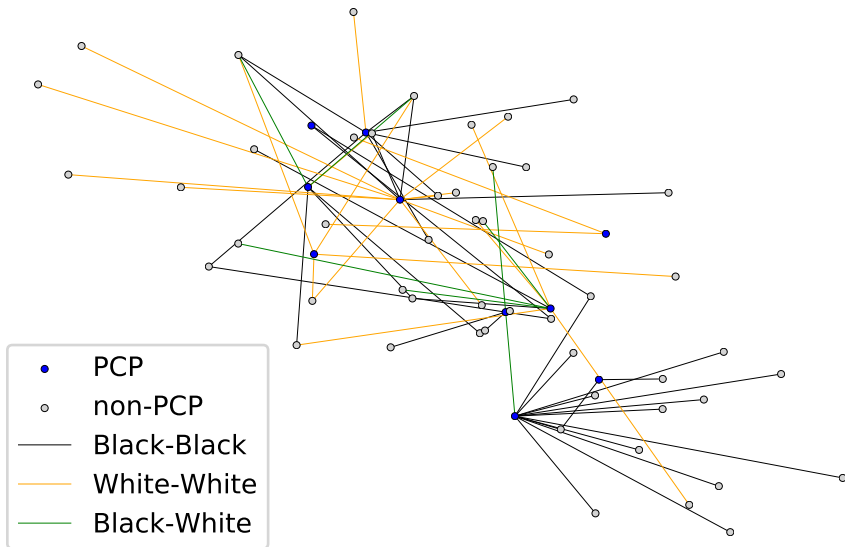
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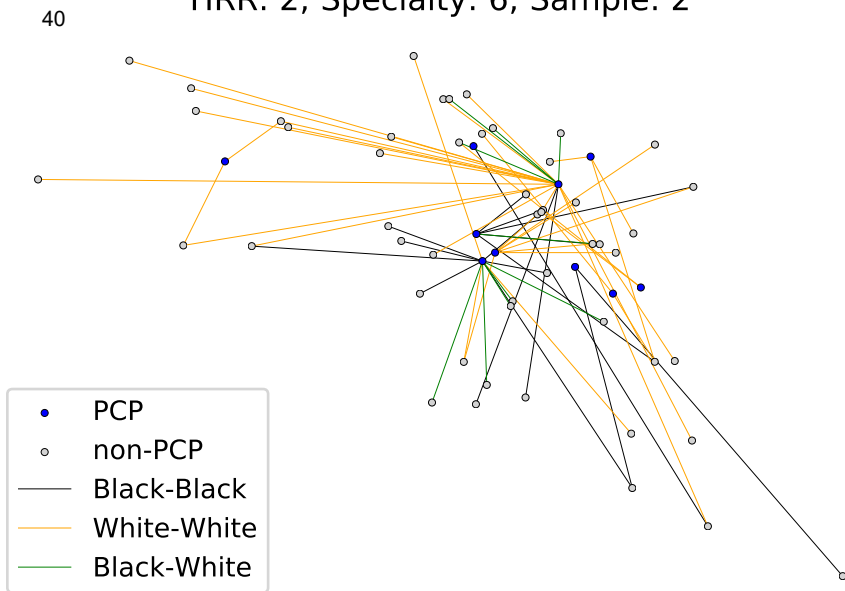


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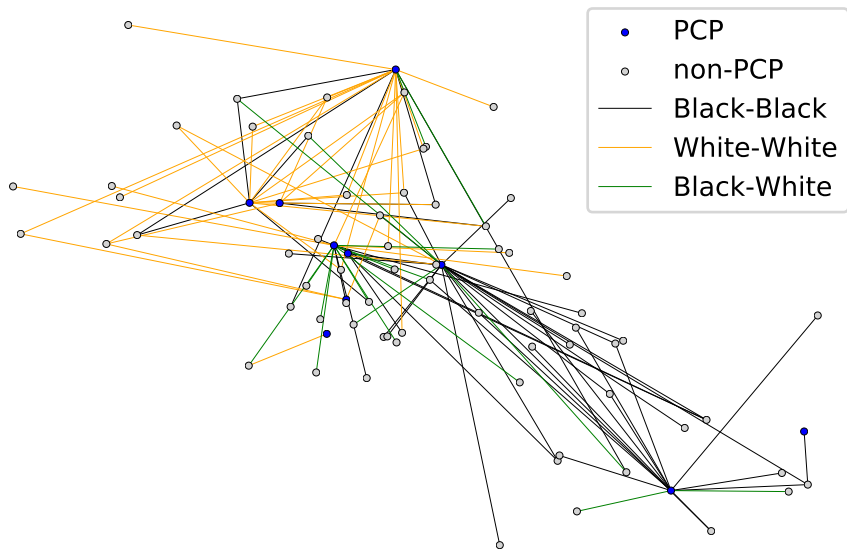


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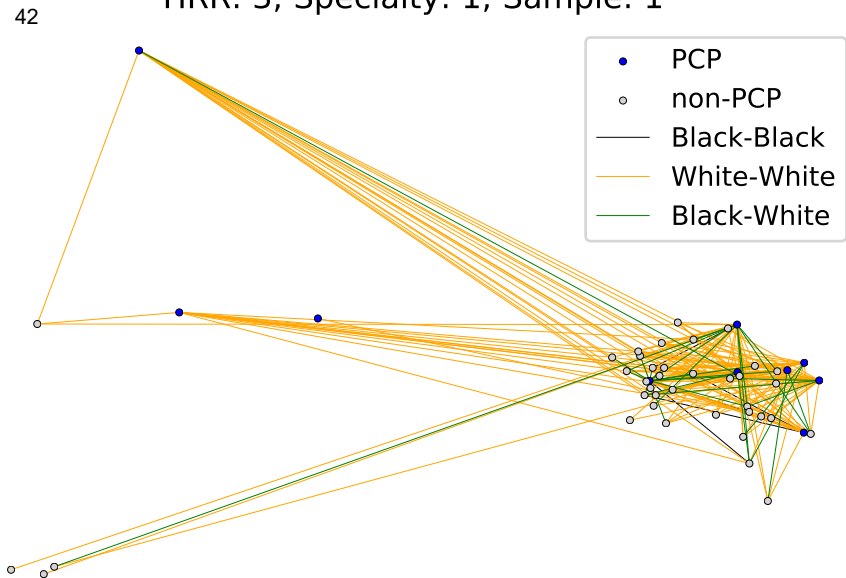


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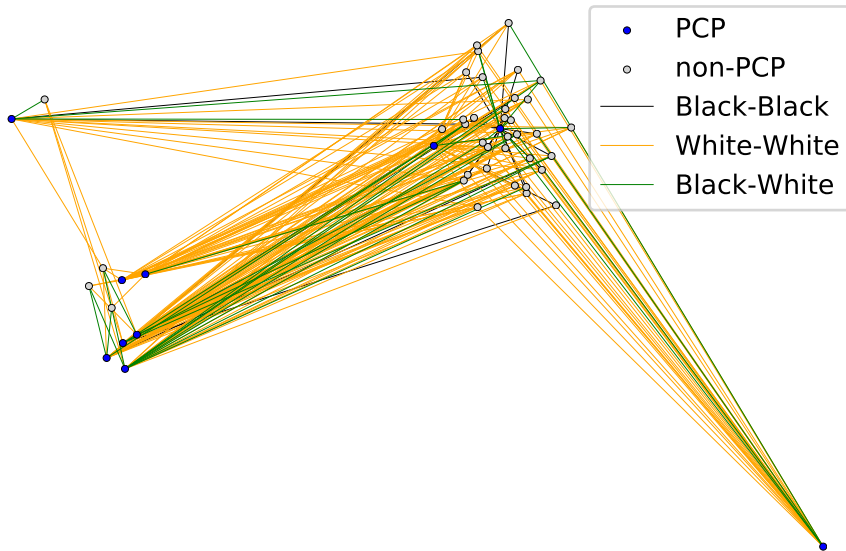


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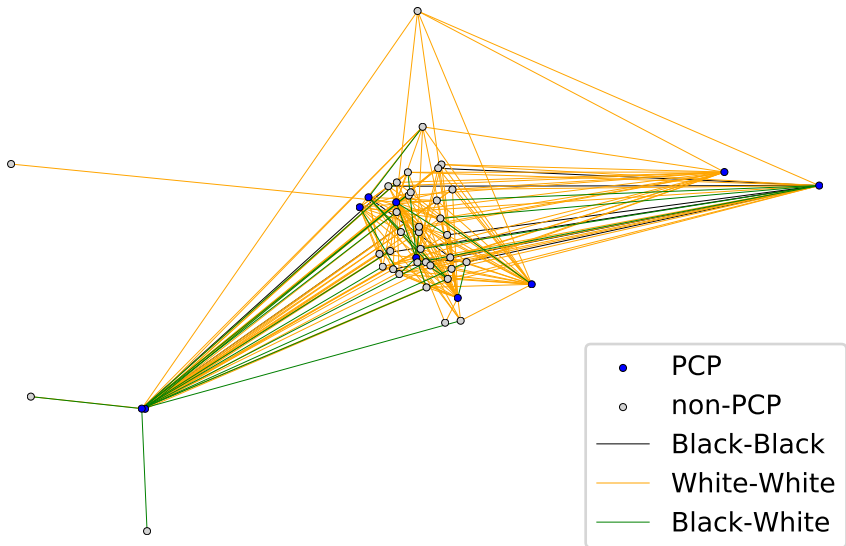
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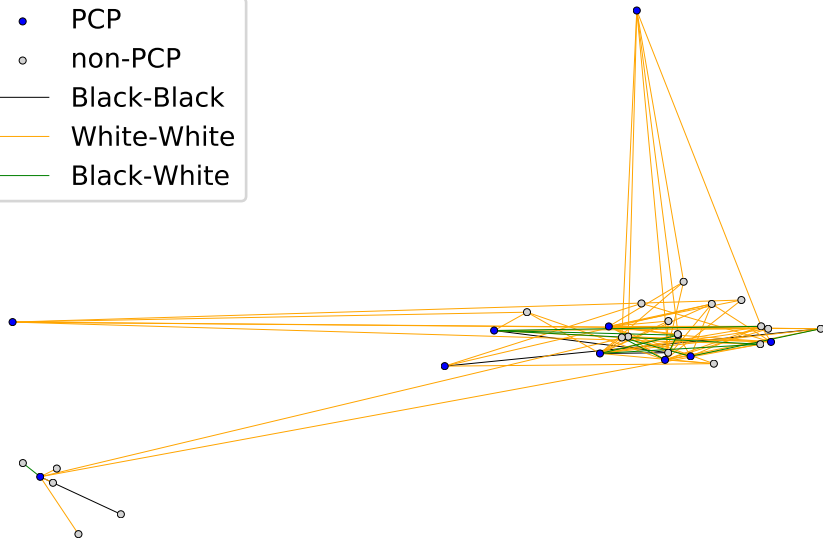
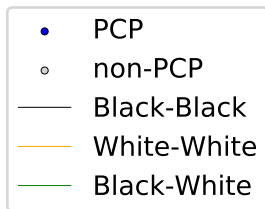
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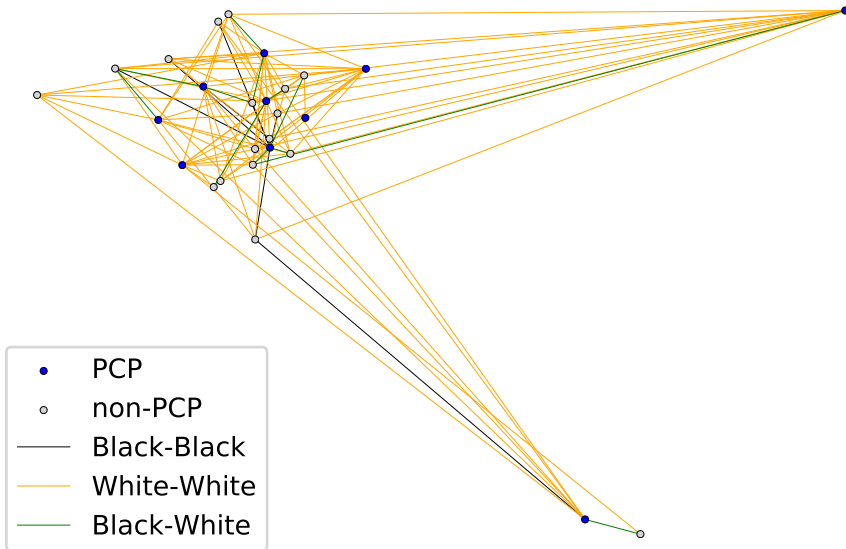
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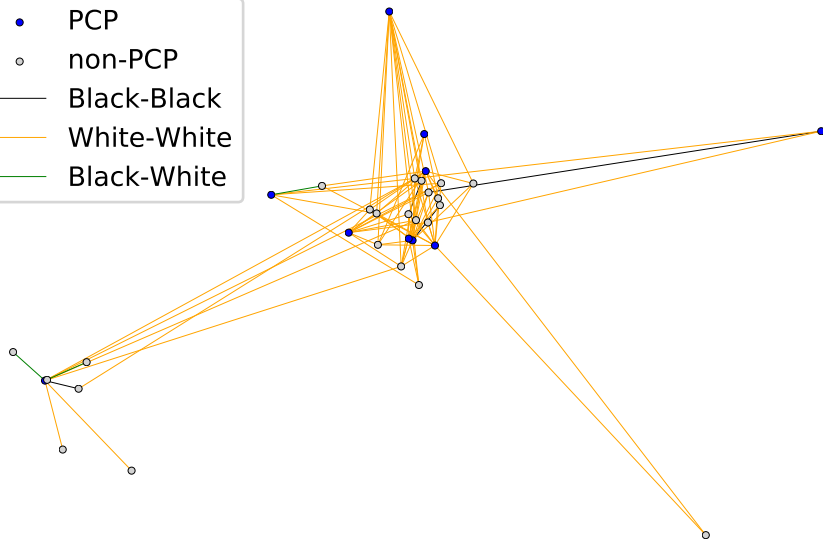
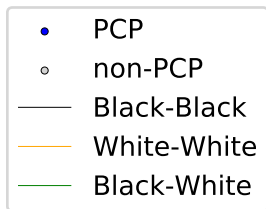
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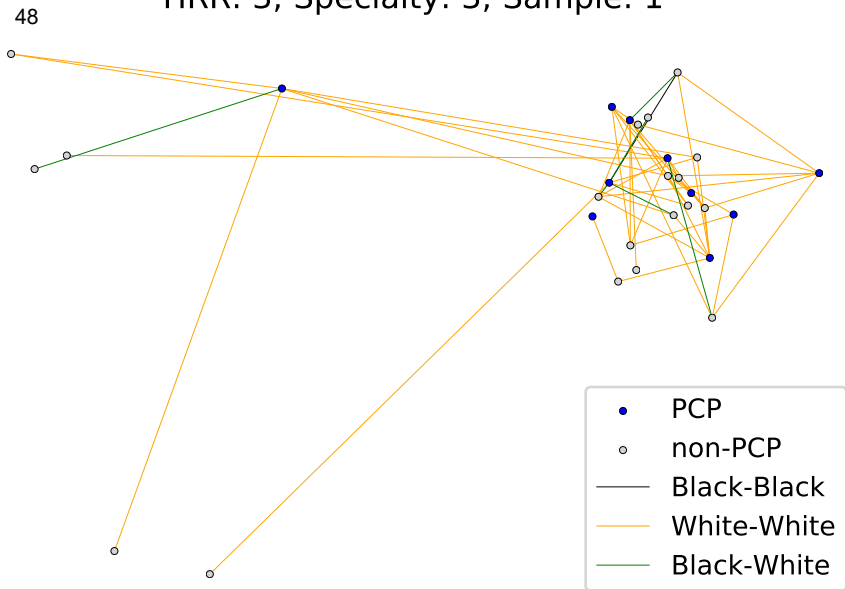


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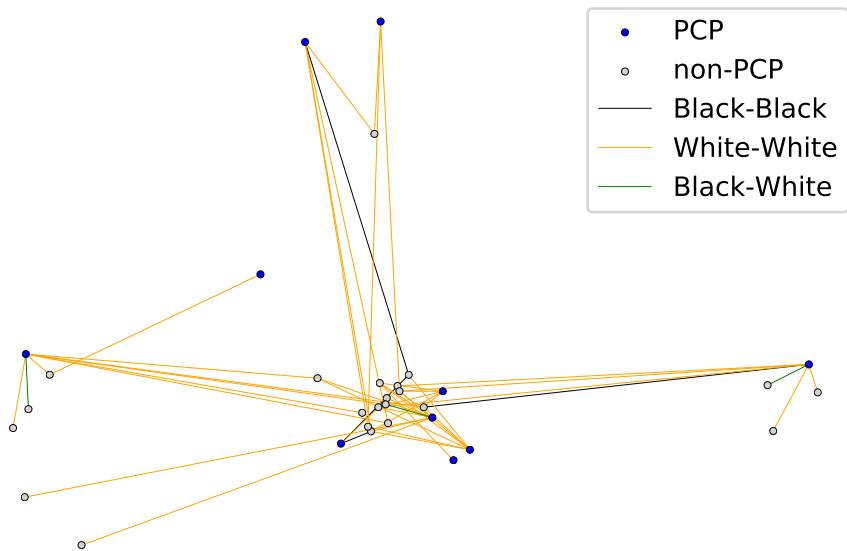
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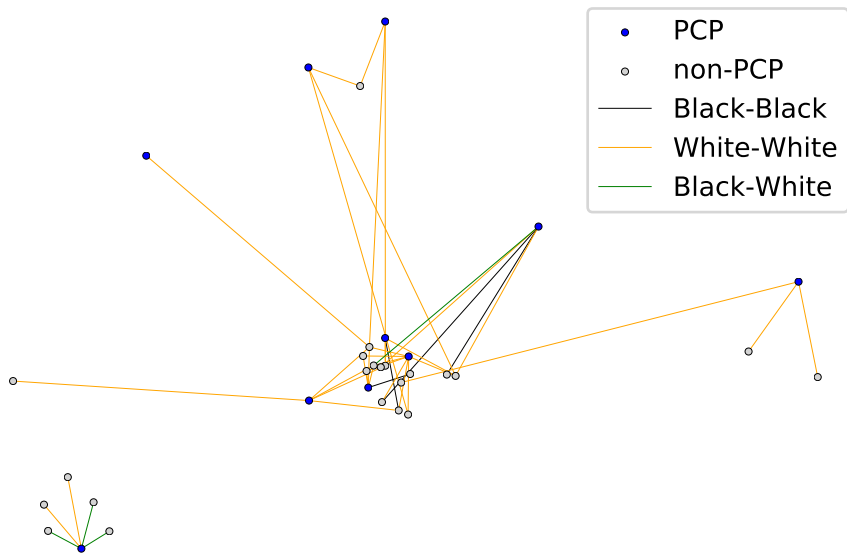


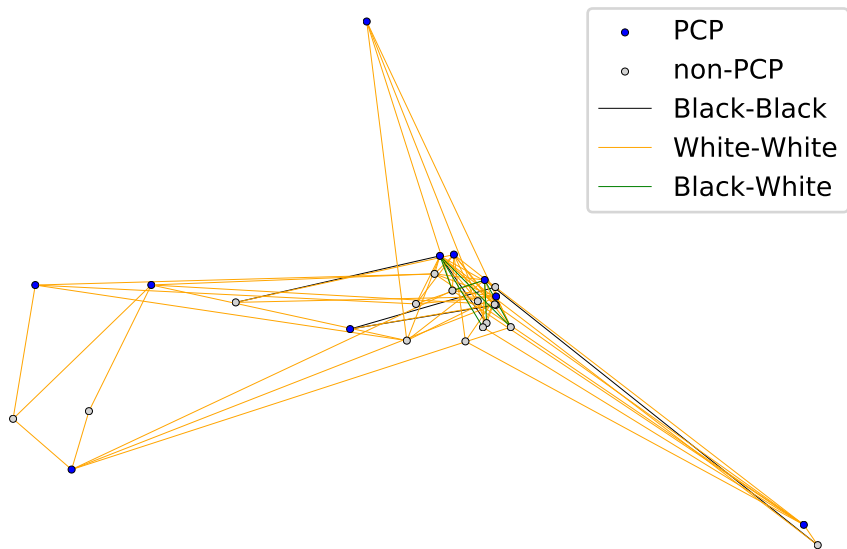
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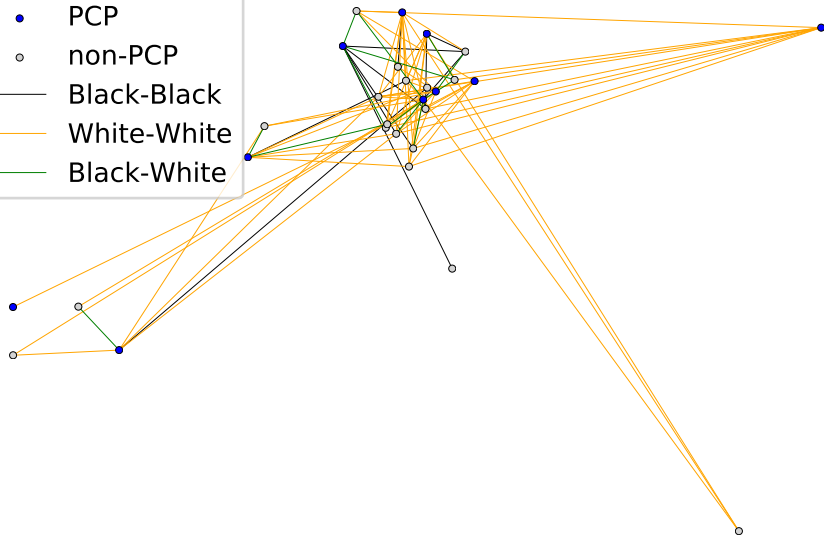
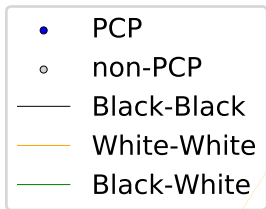
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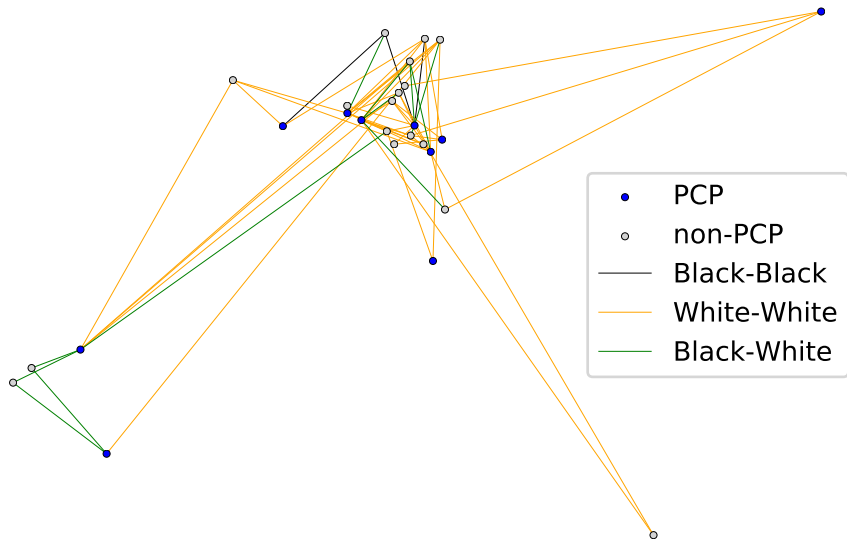


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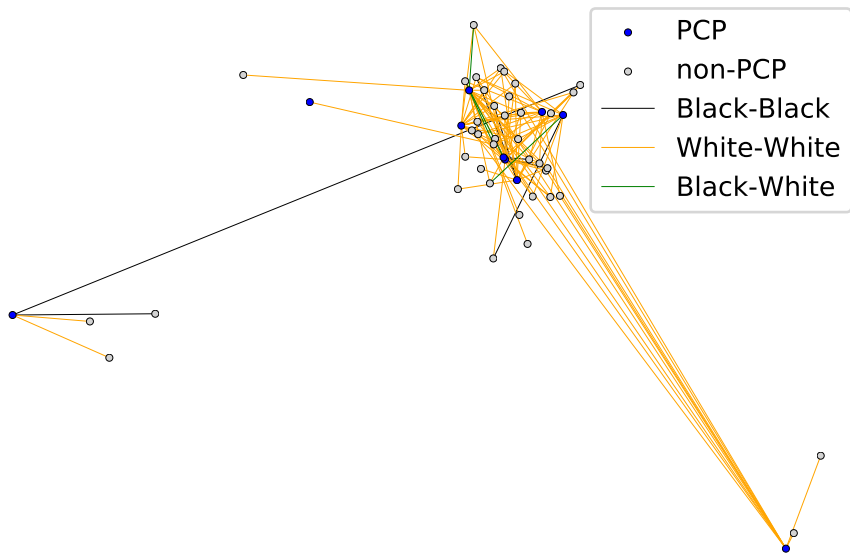
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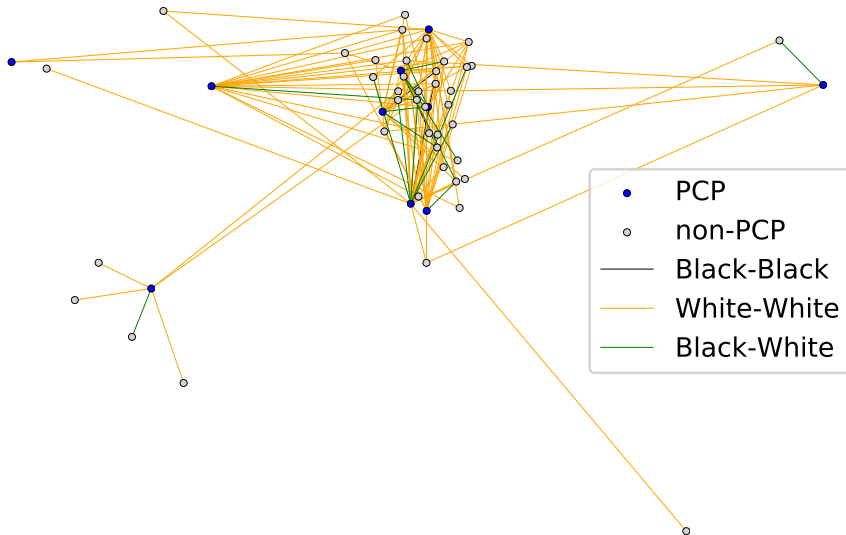


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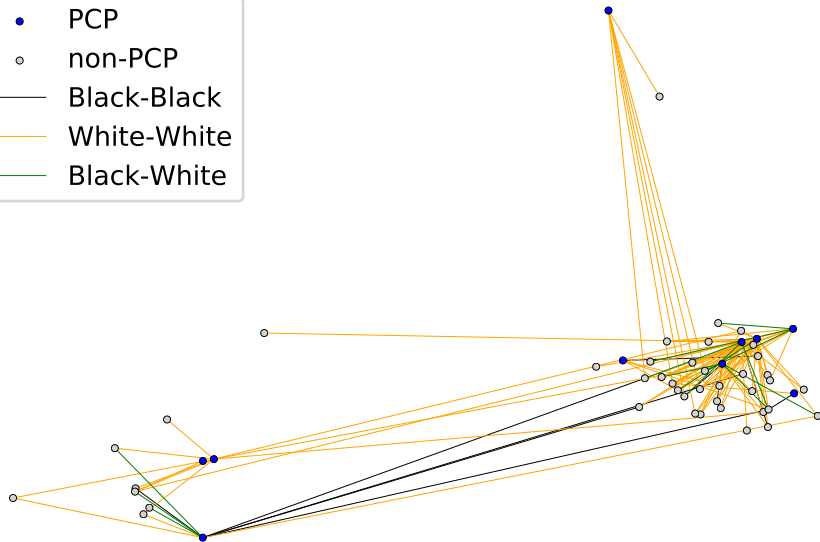
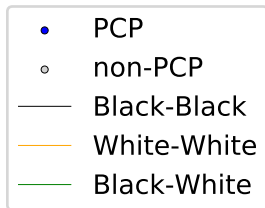
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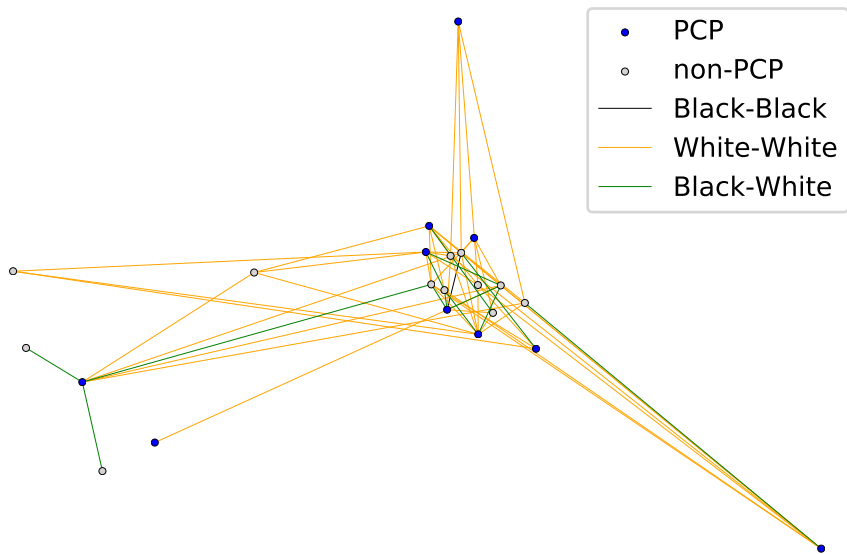
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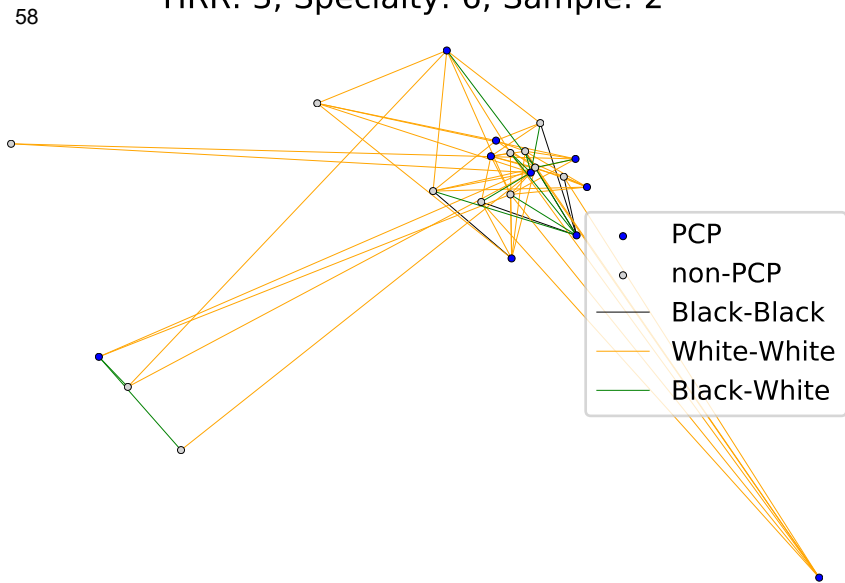
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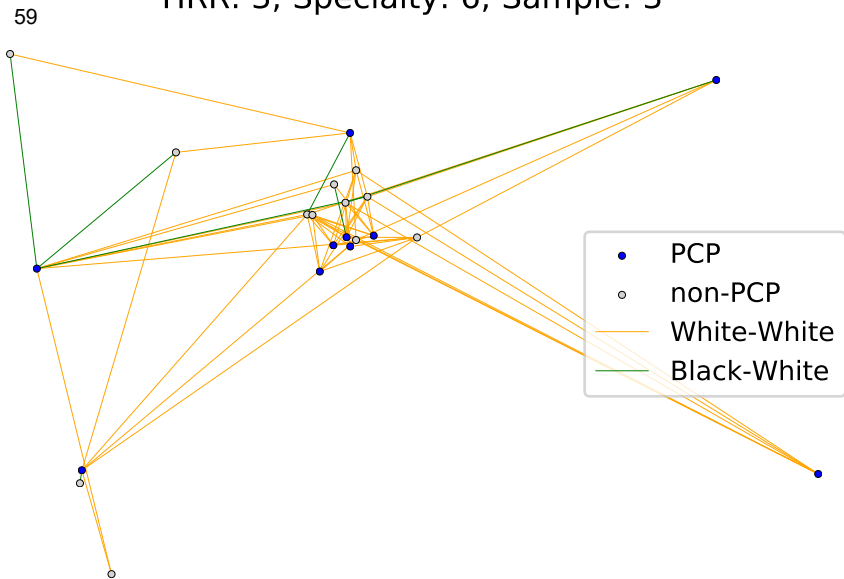




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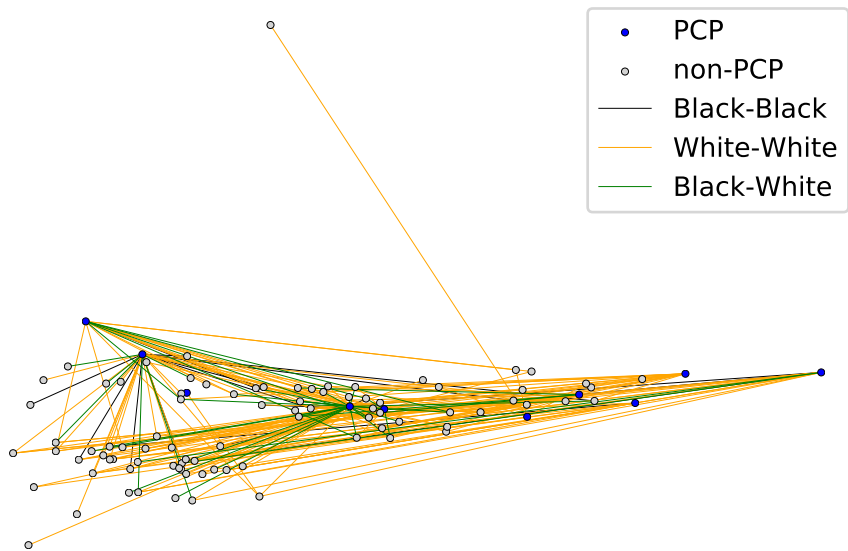


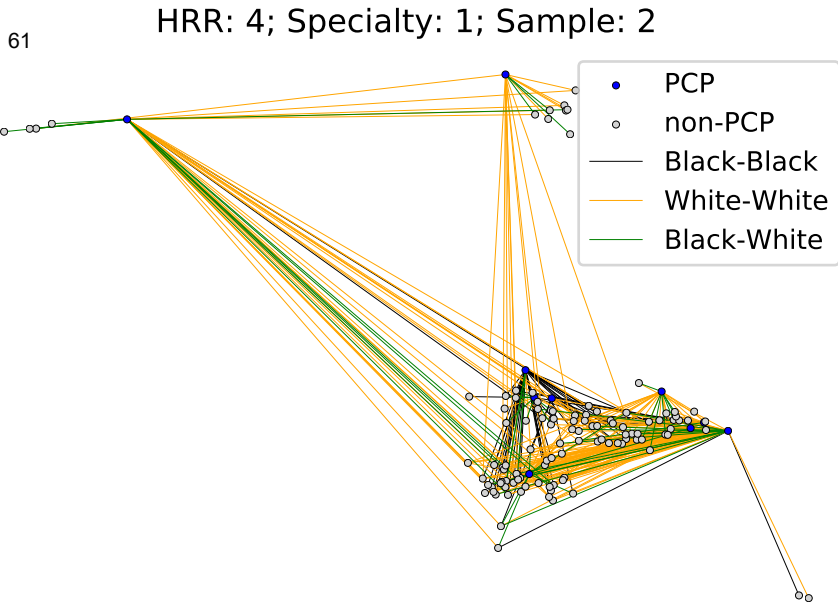
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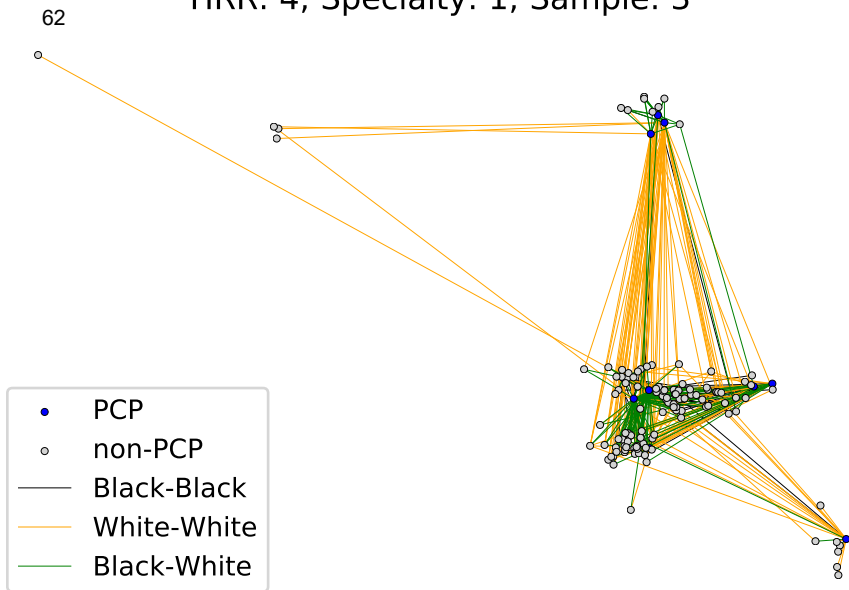
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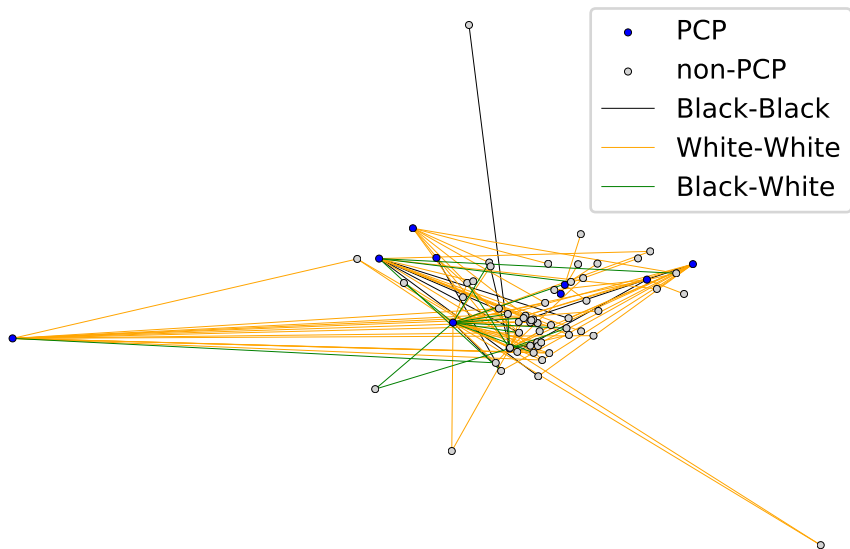




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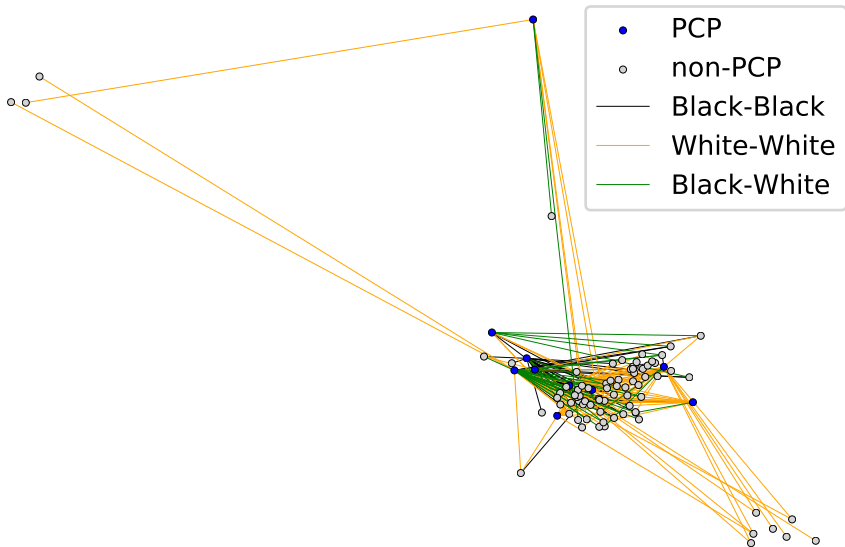


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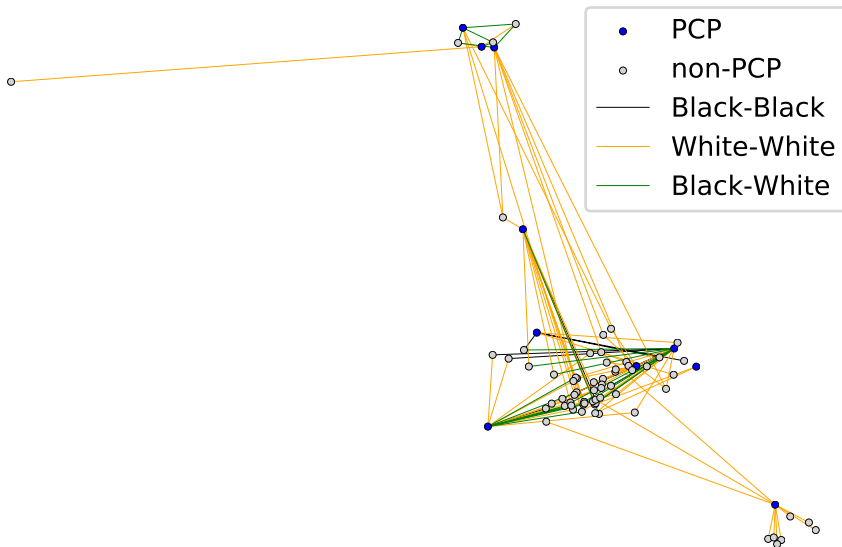
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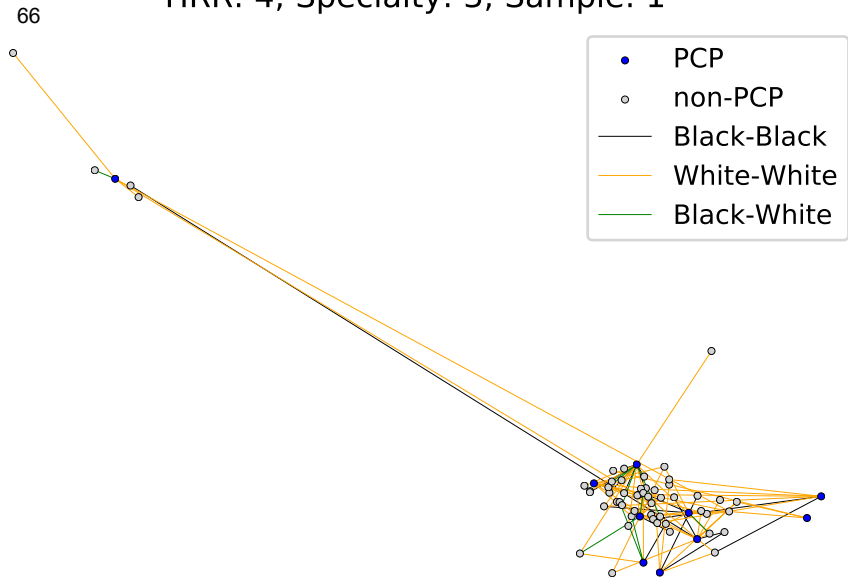


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65

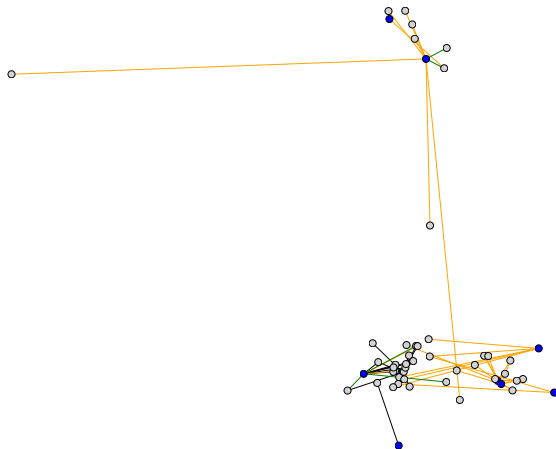
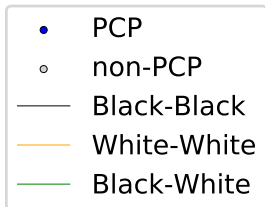


HRR: 4; Specialty: 3; Sample: 1



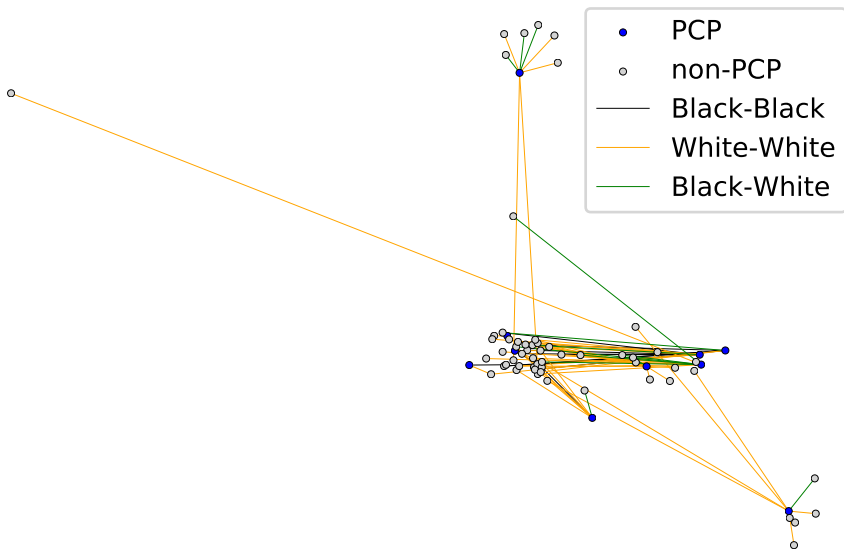
HRR: 4; Specialty: 3; Sample: 2

67

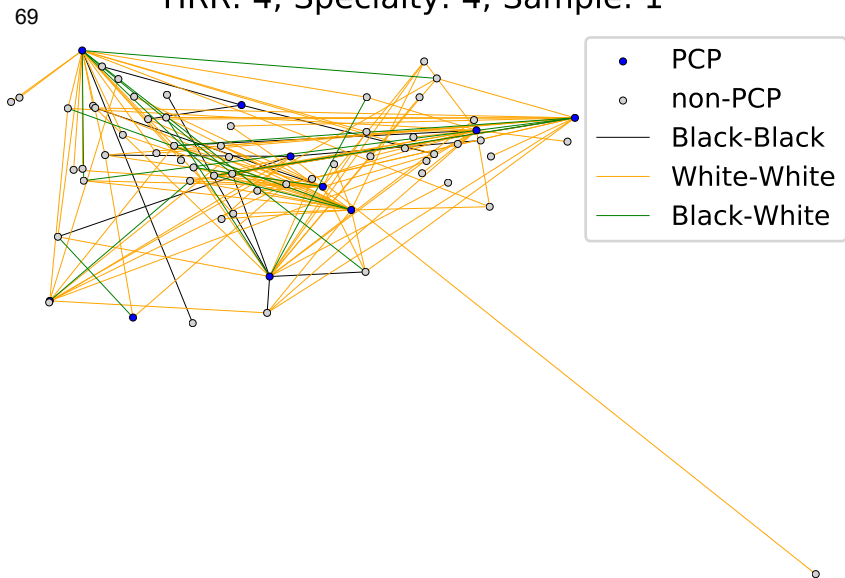


HRR: 4; Specialty: 3; Sample: 3

68

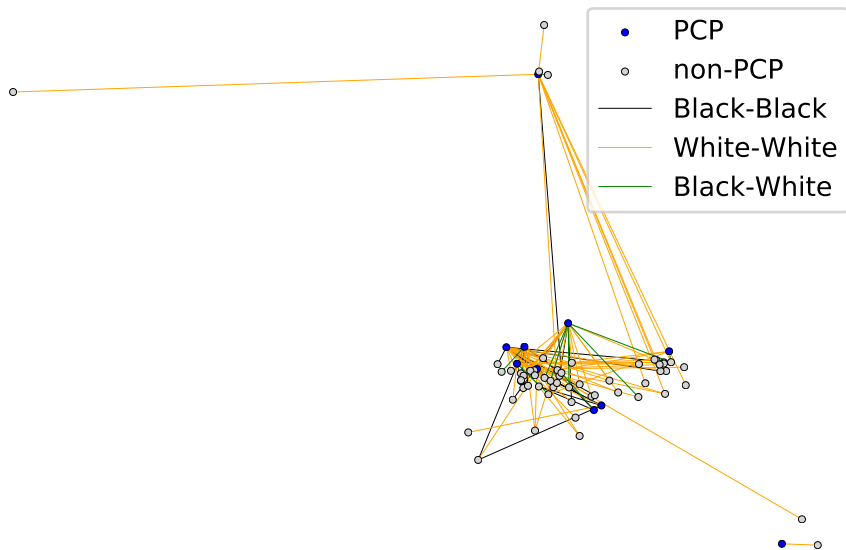


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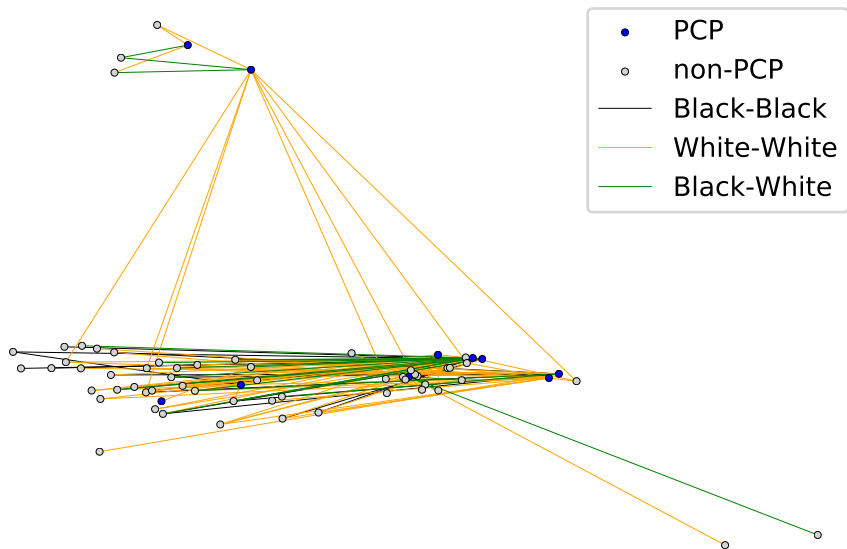


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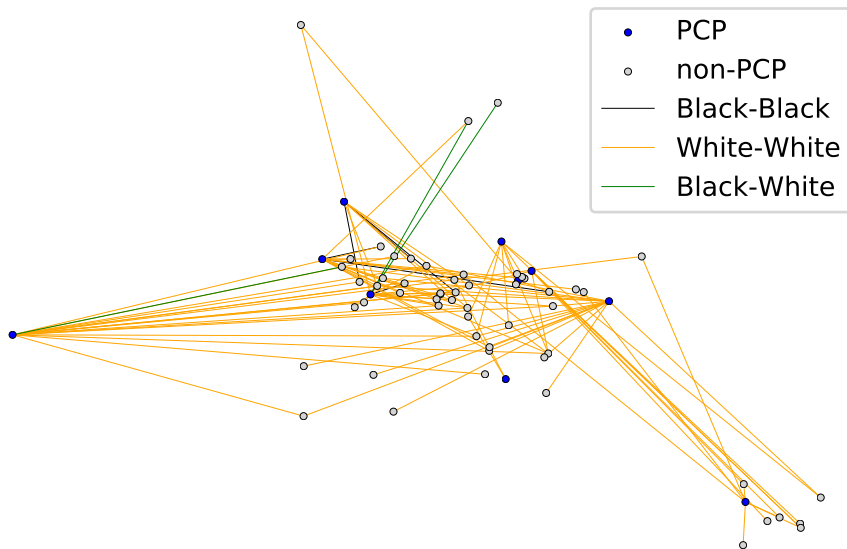
70



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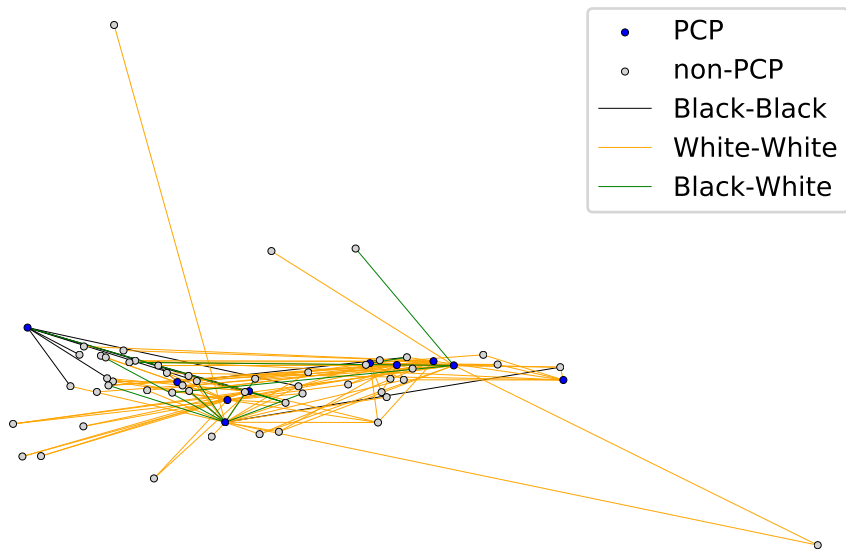


HRR: 4; Specialty: 5; Sample: 1

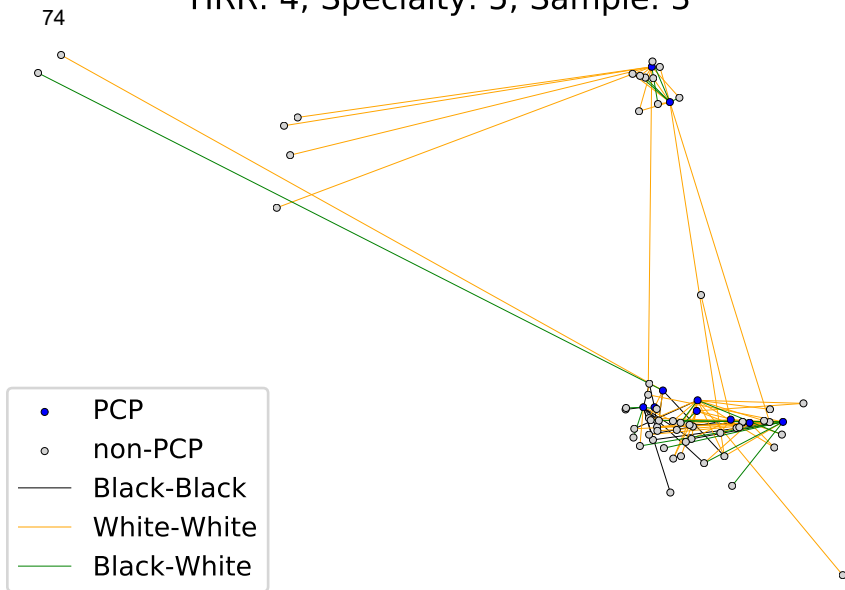


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73

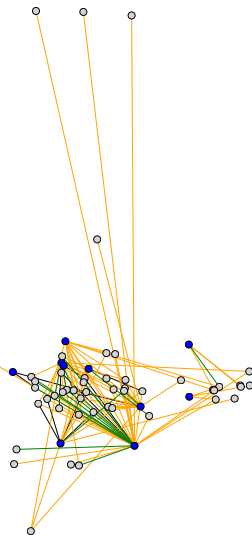
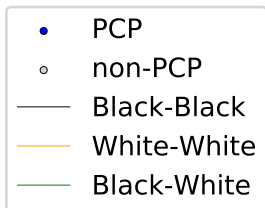


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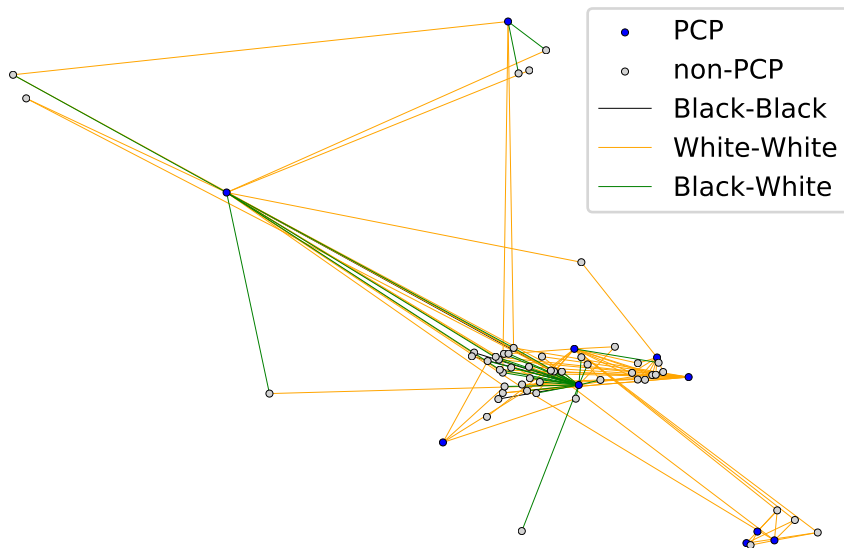
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75



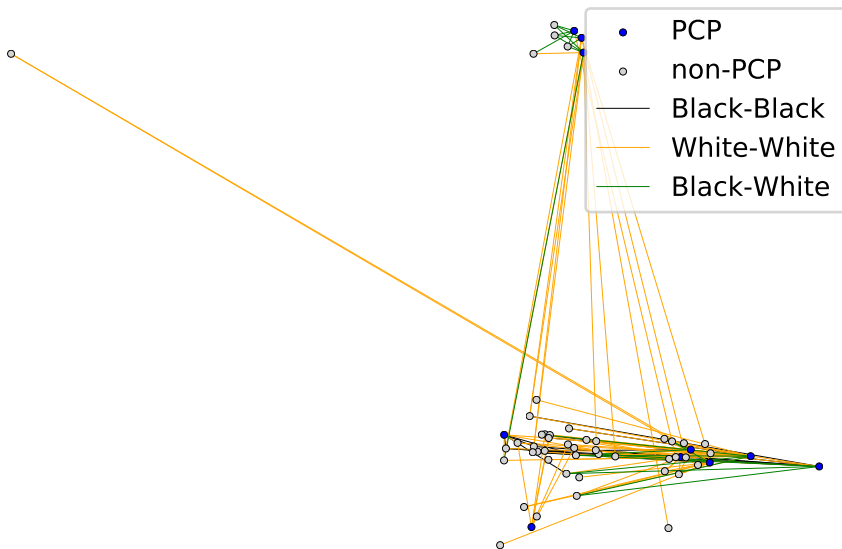
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76



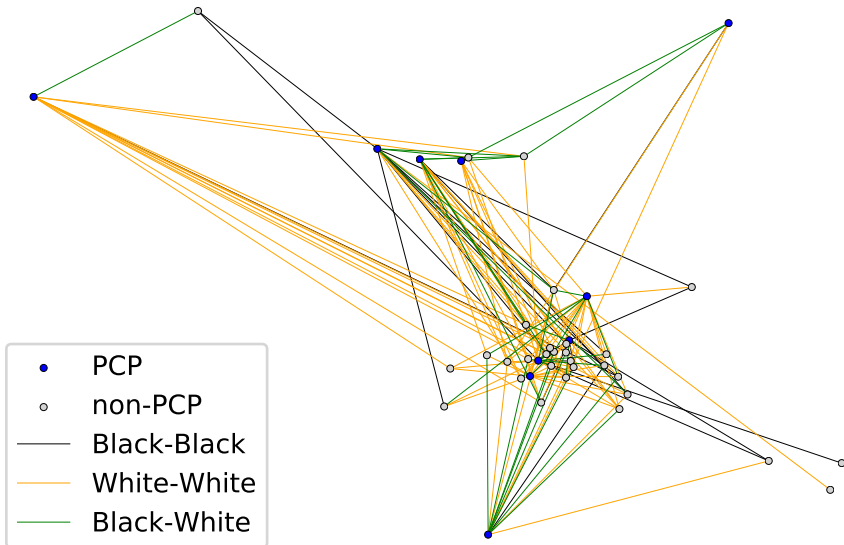
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77

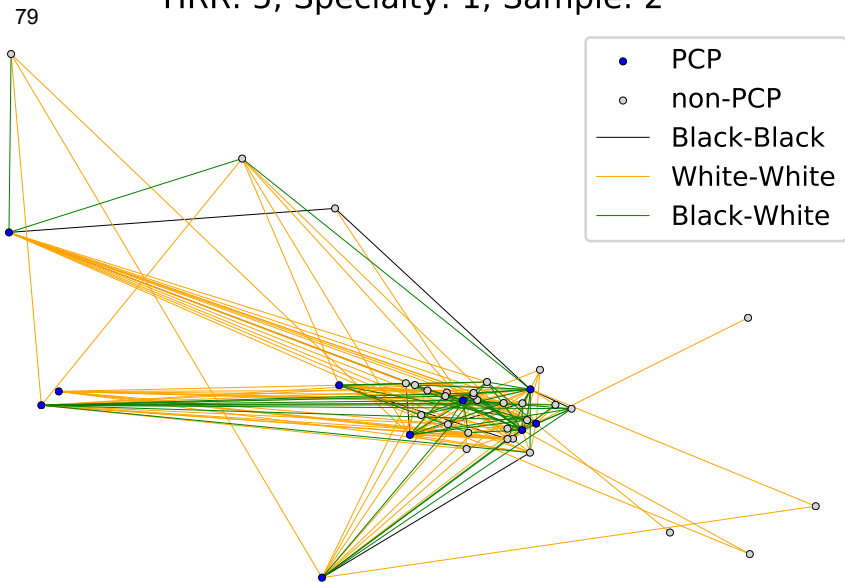


78

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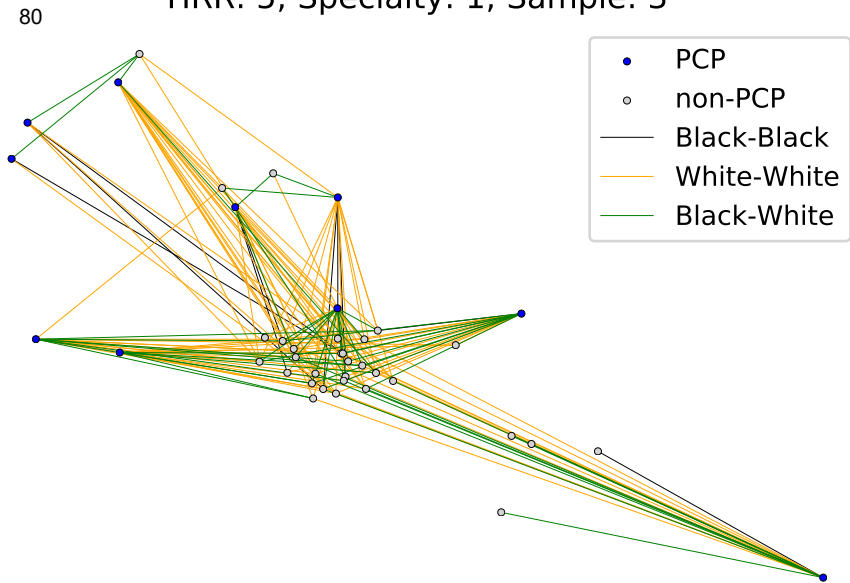


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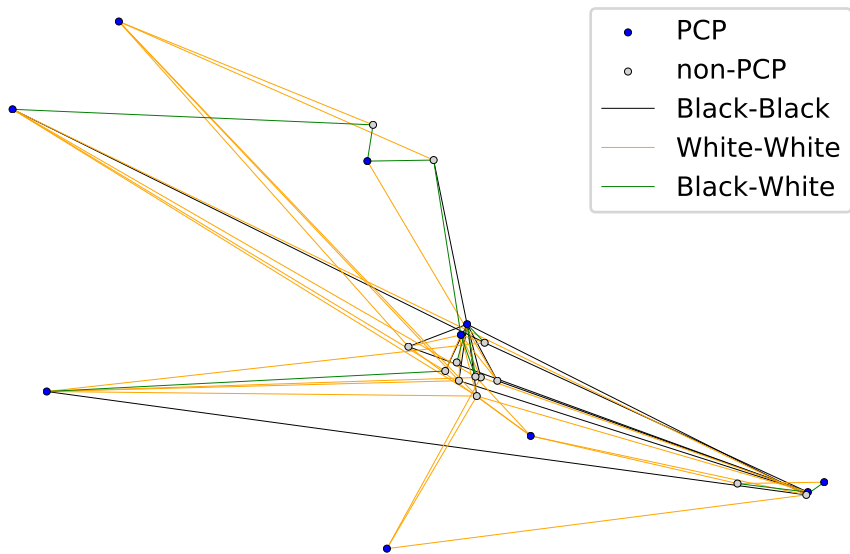
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HRR: 5; Specialty: 1; Sample: 3

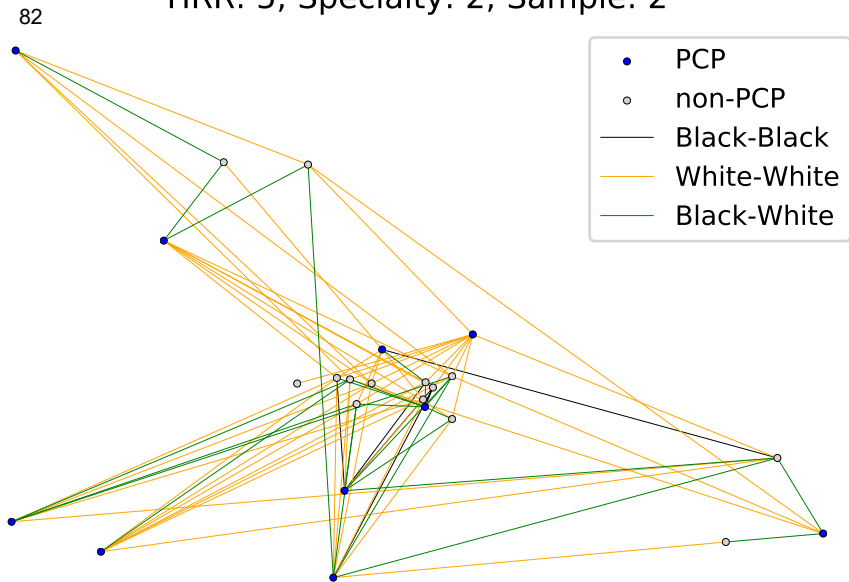


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81

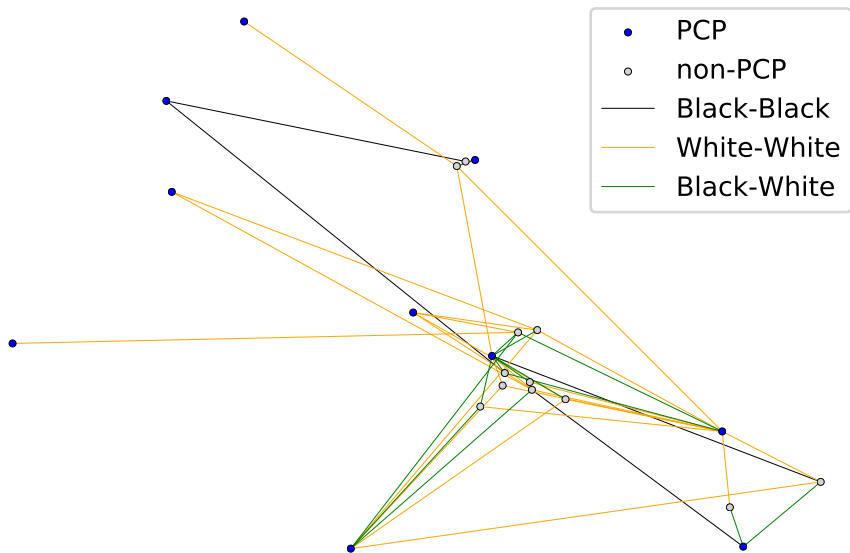


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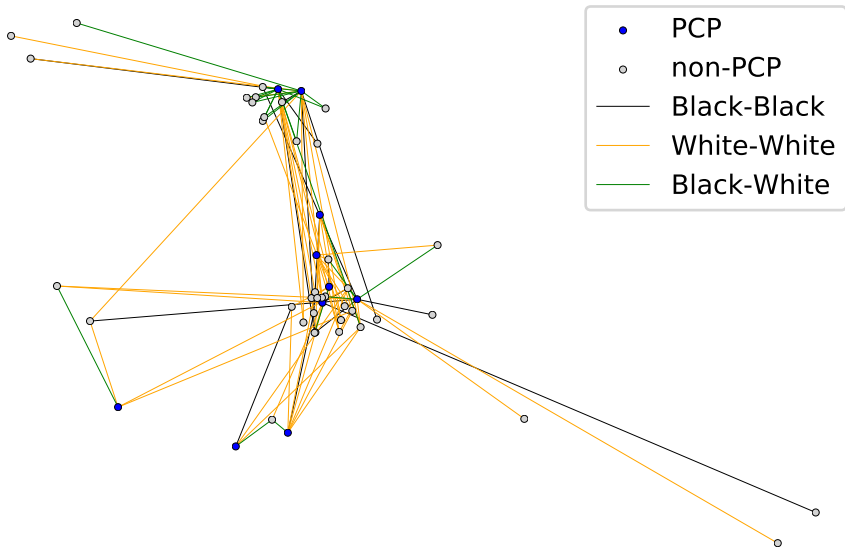
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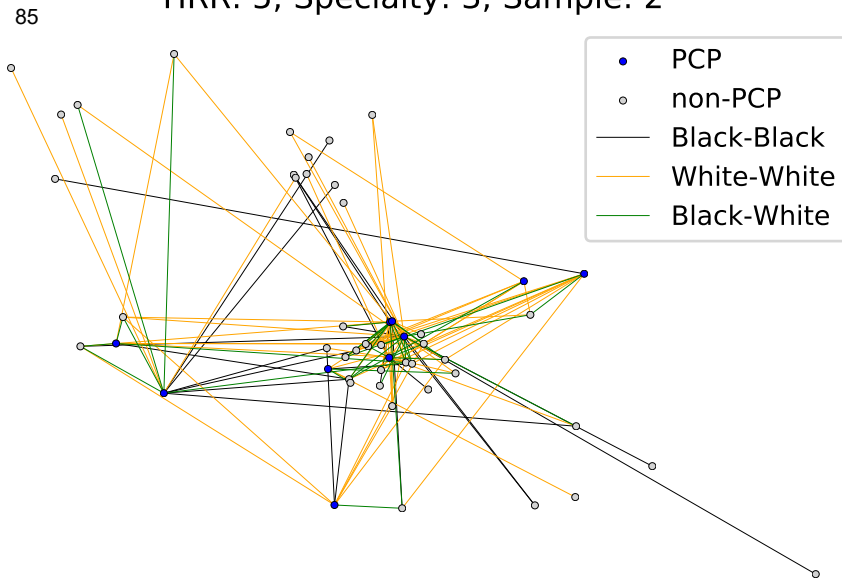


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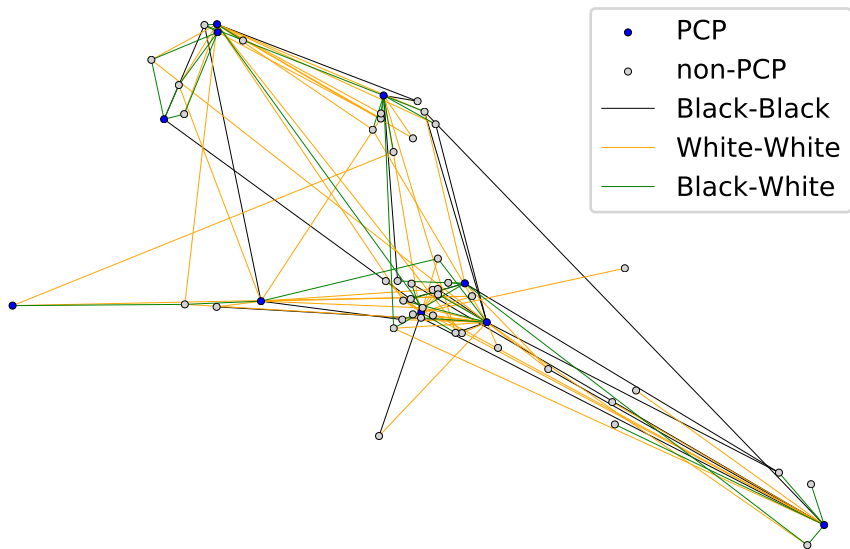
84



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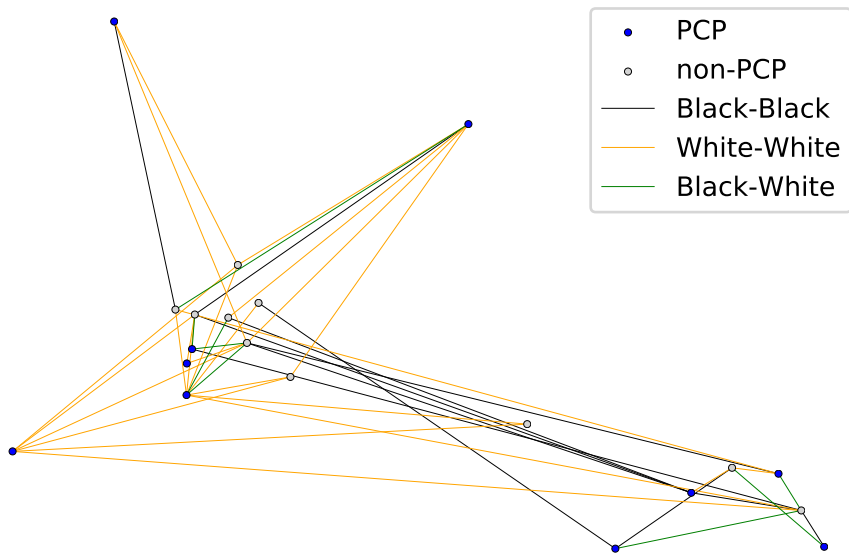


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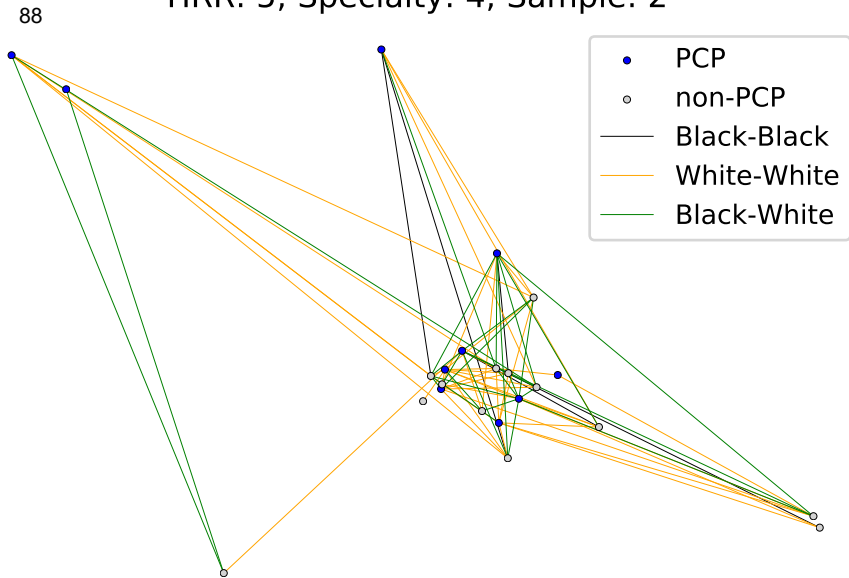


87

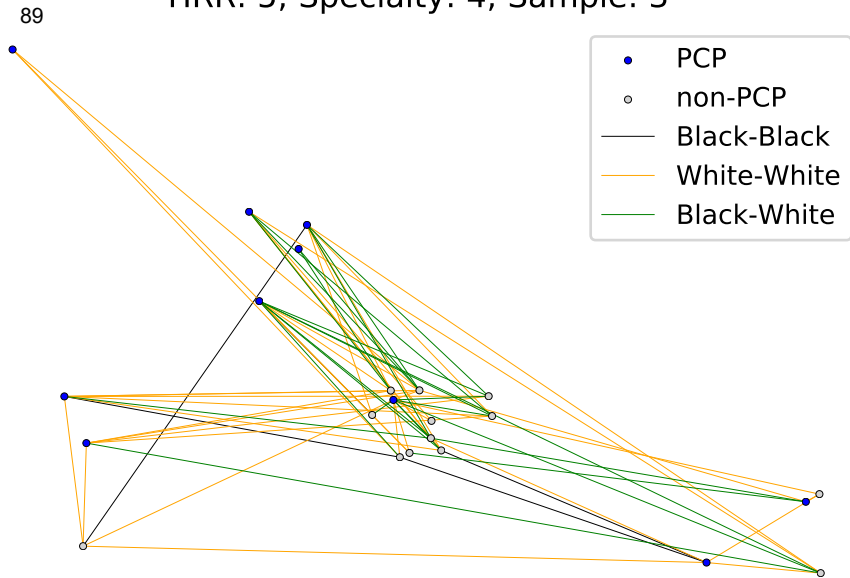
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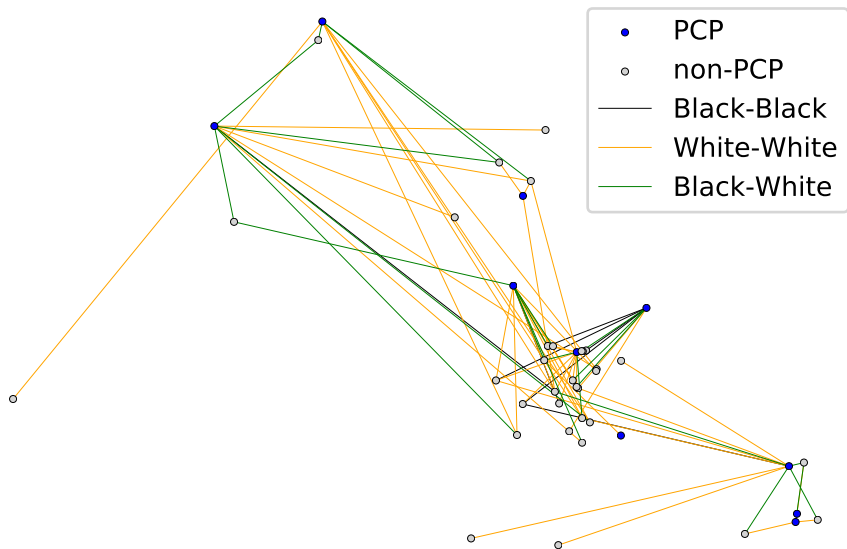


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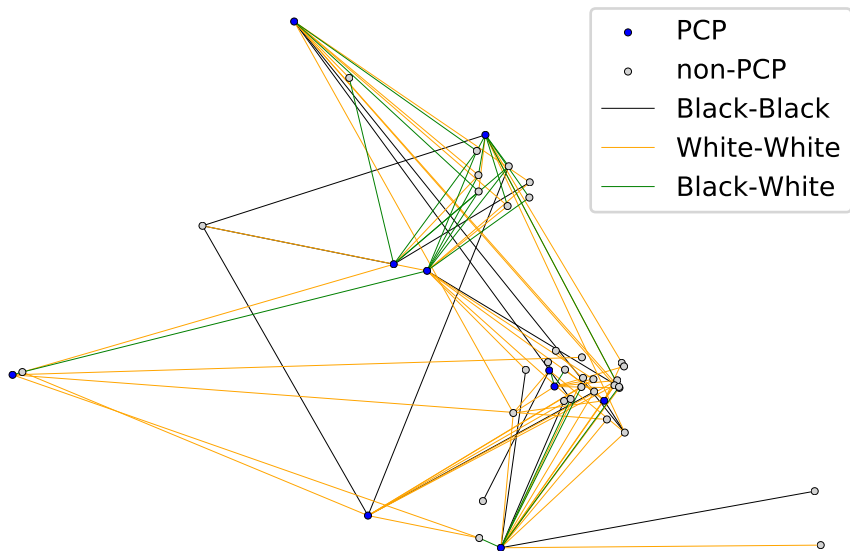
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90

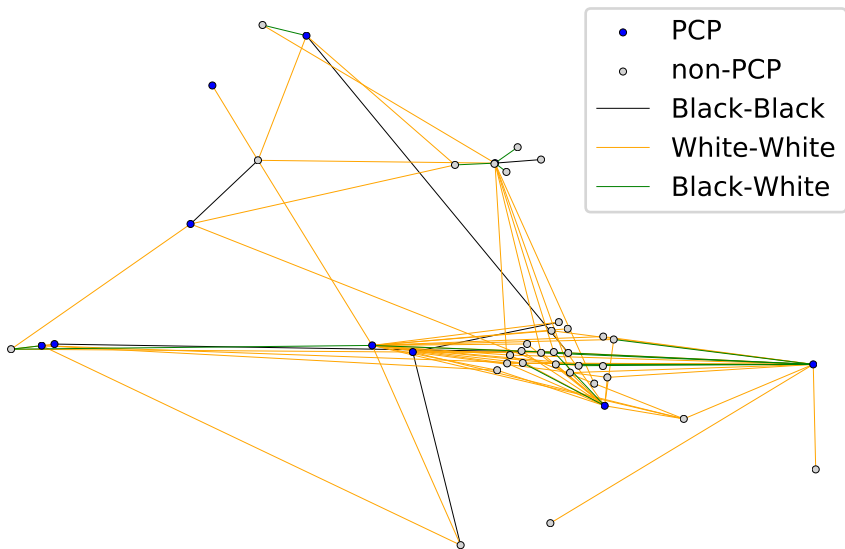


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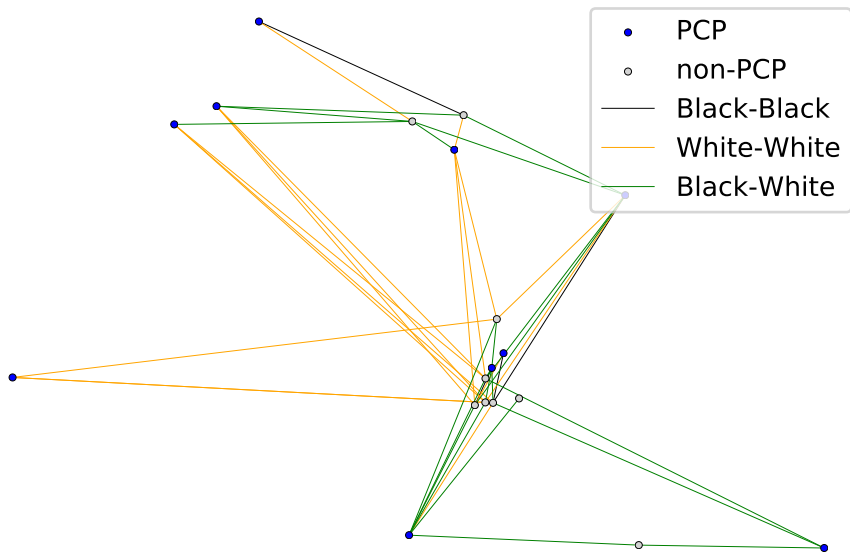
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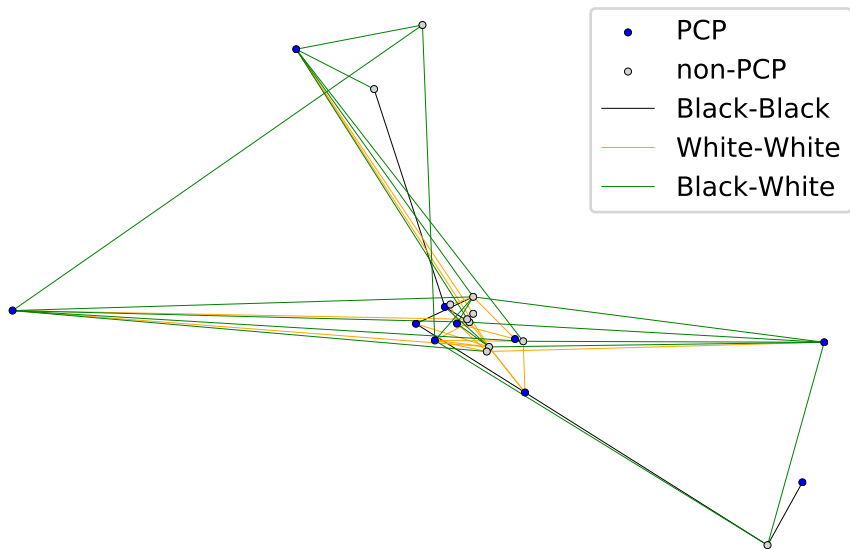


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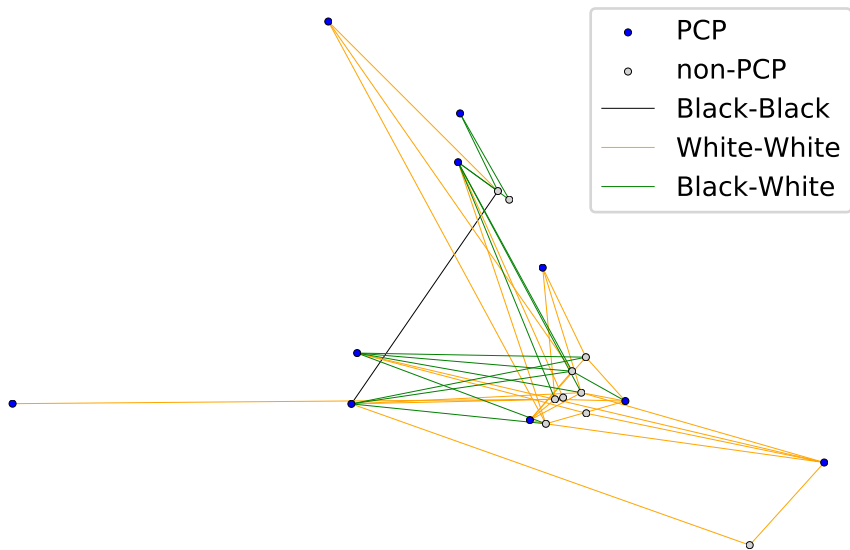


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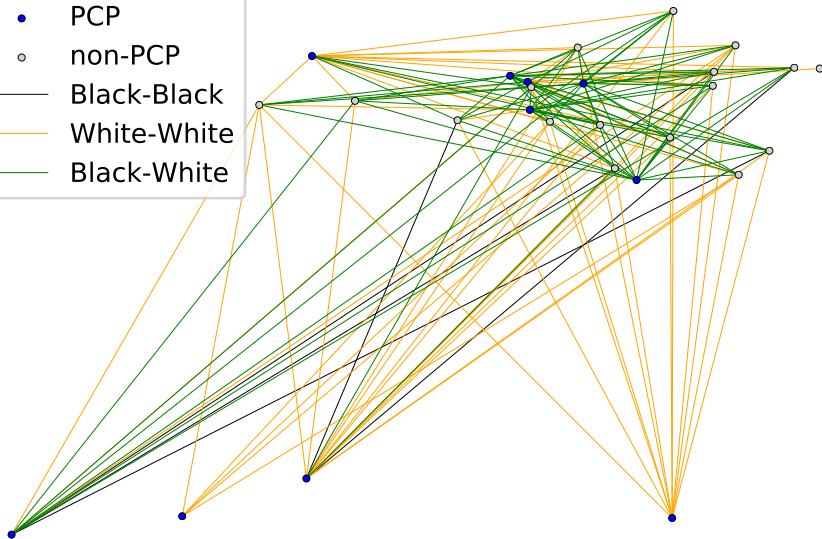
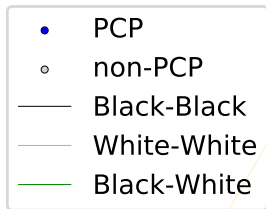


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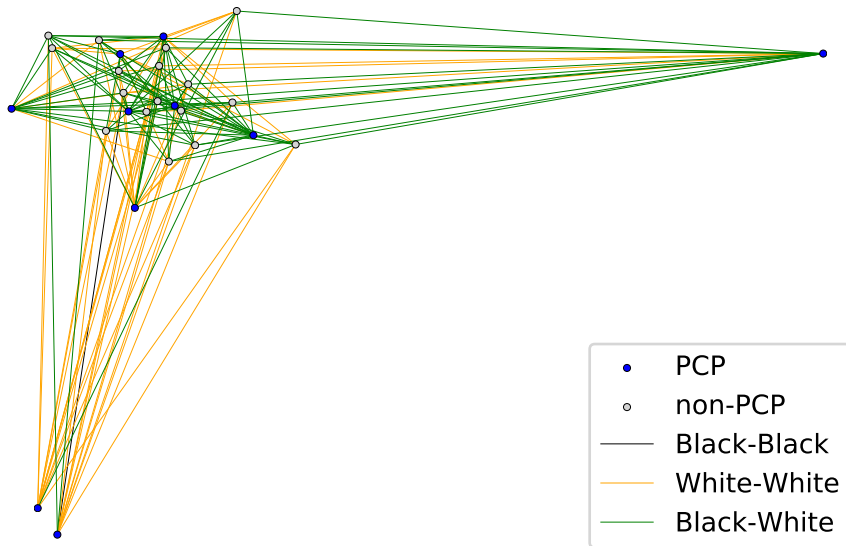
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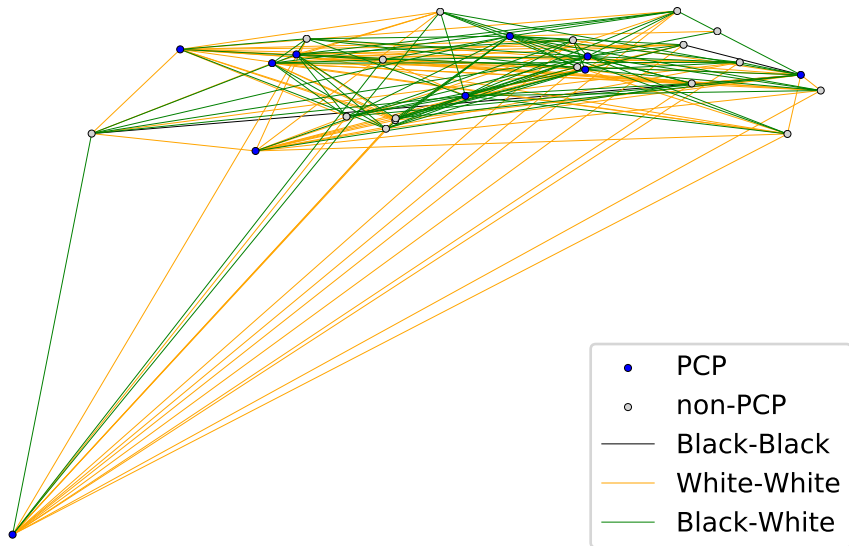
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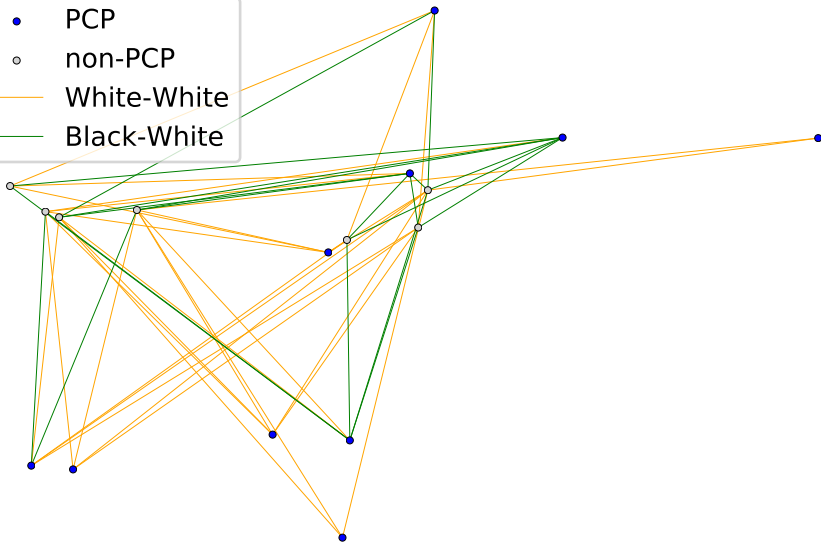
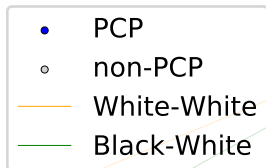
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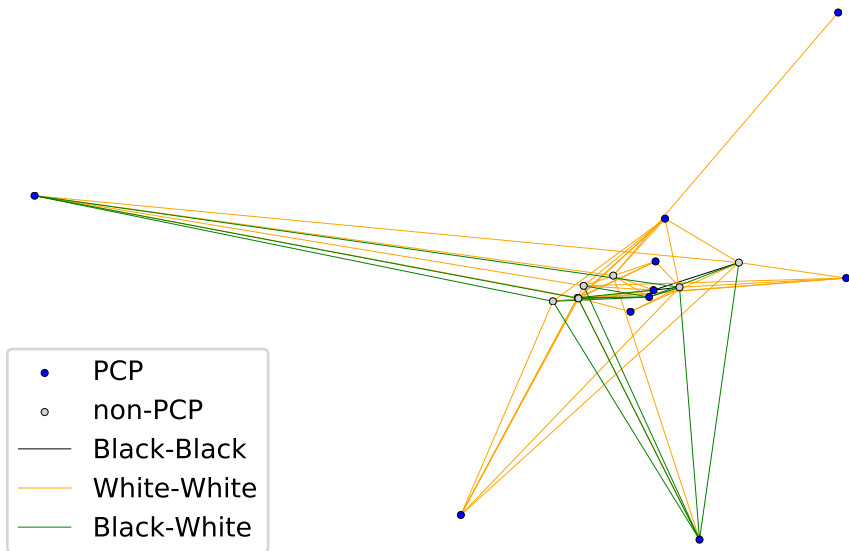
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99



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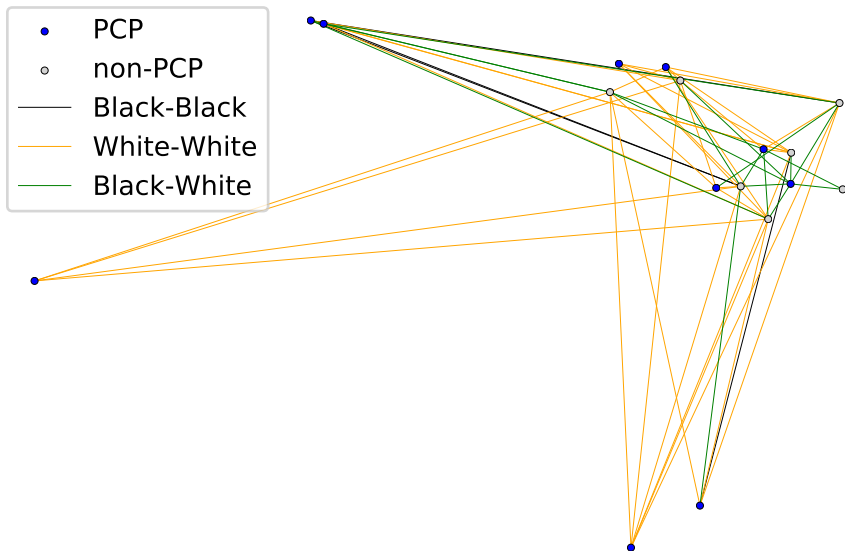
100



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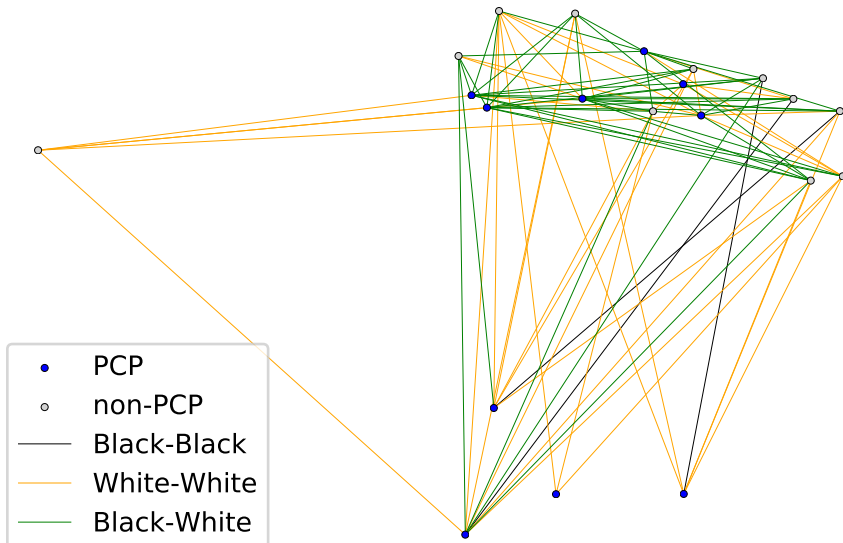
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101

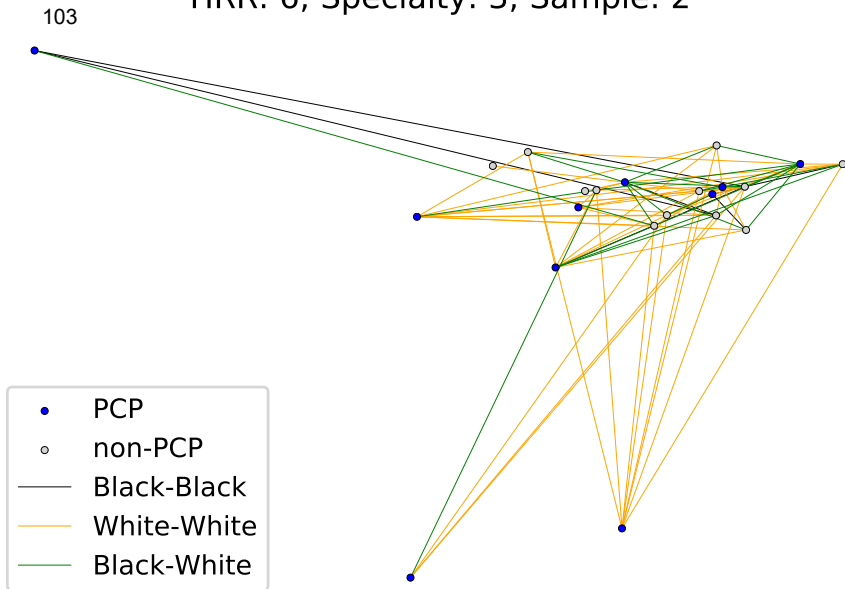


102

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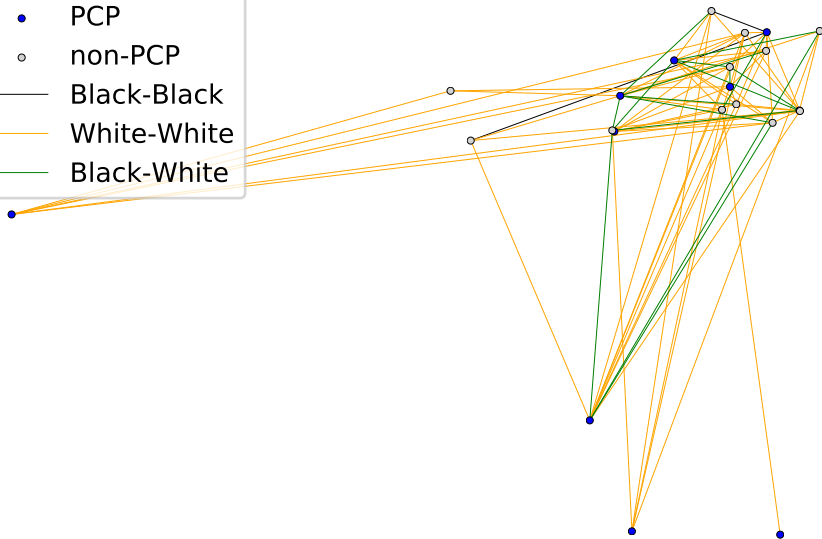
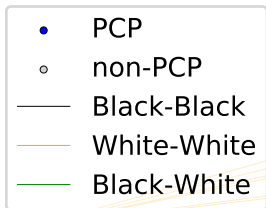


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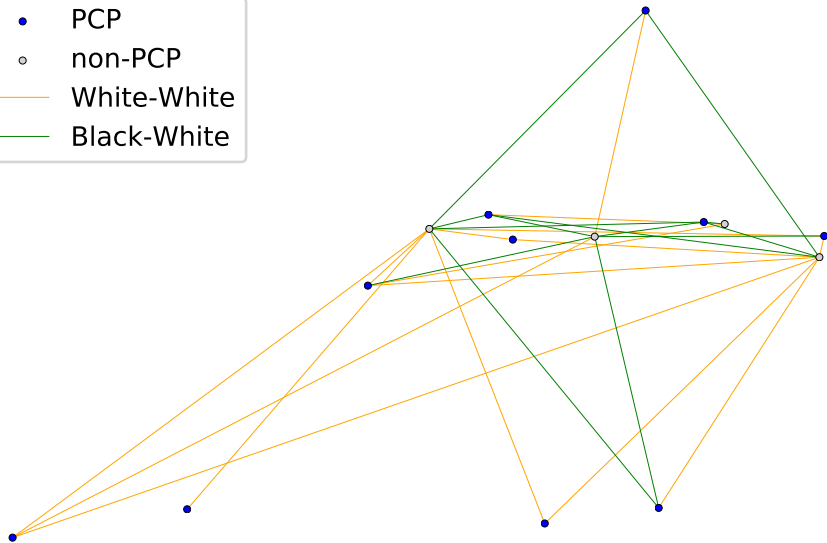
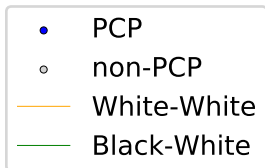
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104



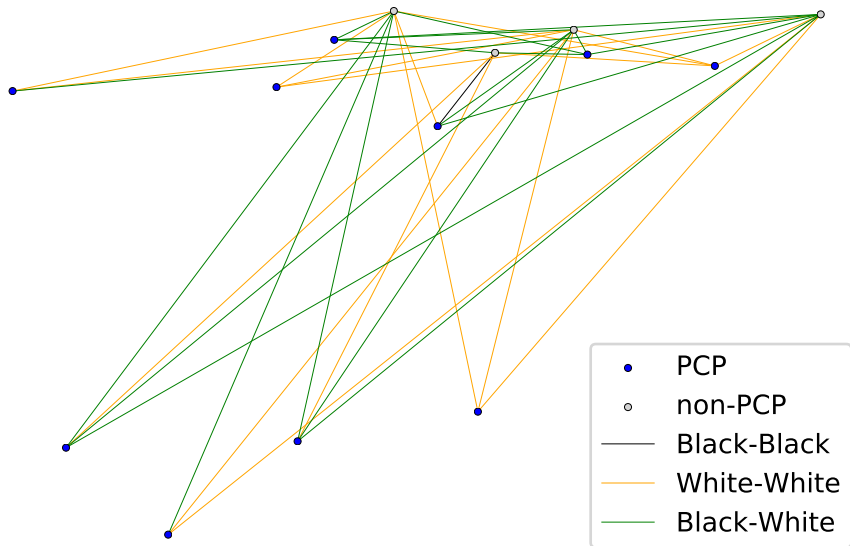
105

HRR: 6; Specialty: 4; Sample: 1



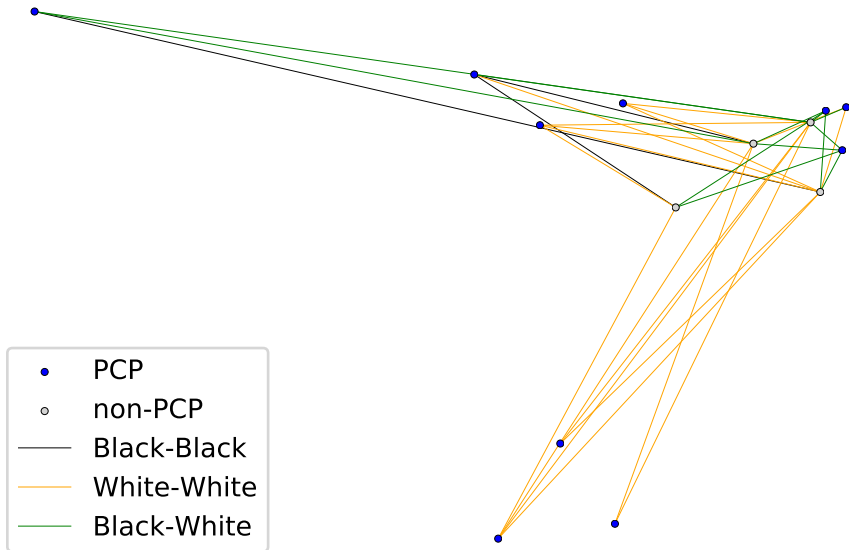
106

HRR: 6; Specialty: 4; Sample: 2



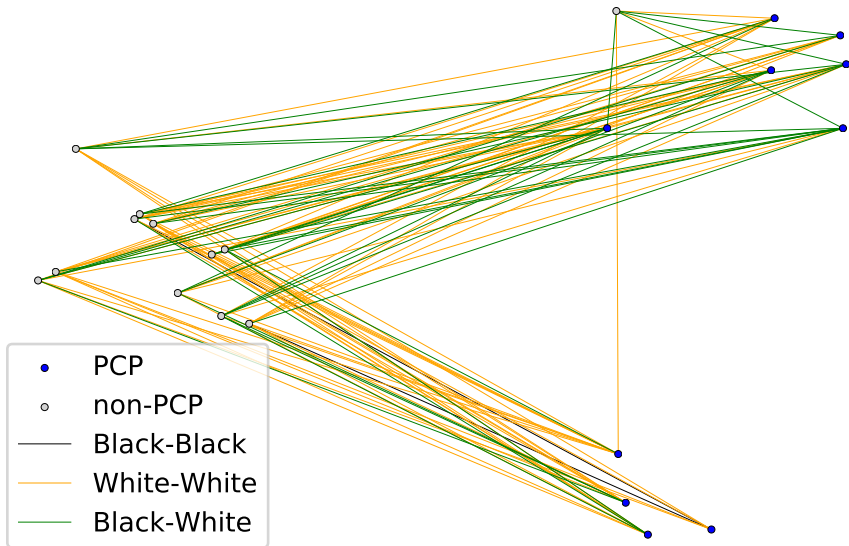
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107



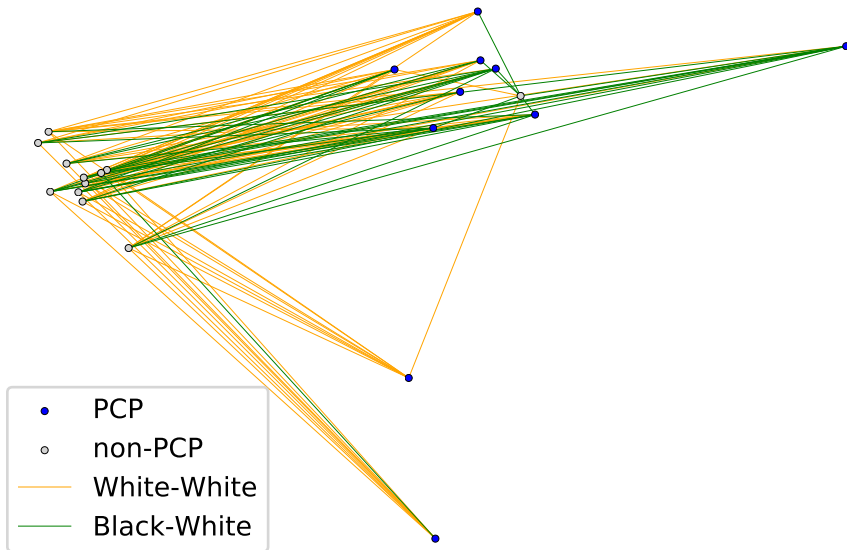
108

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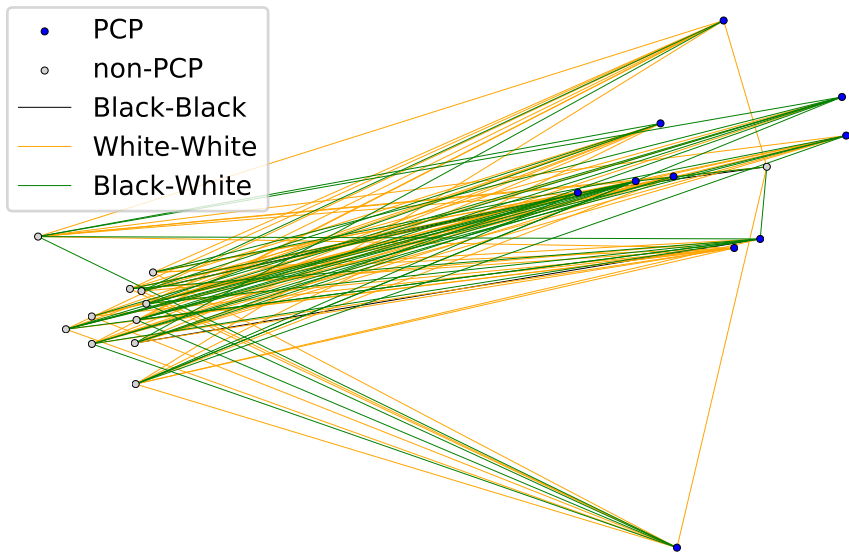
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109



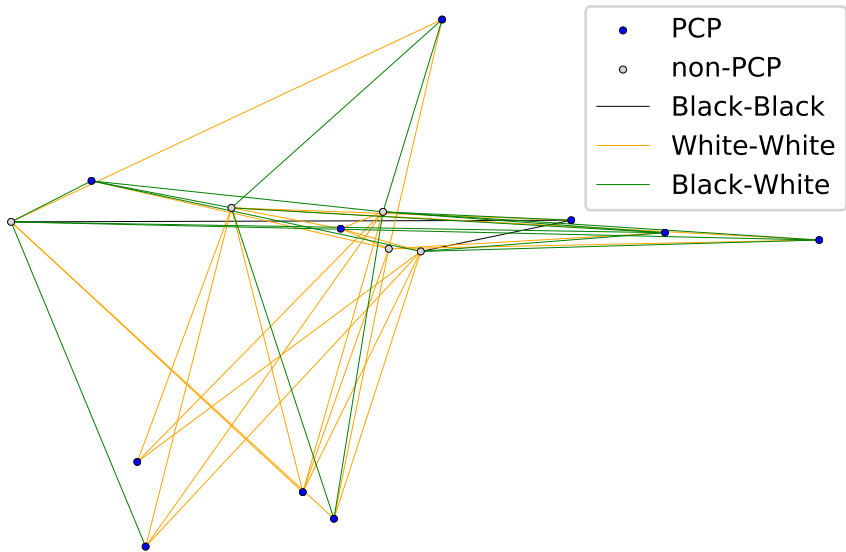
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110



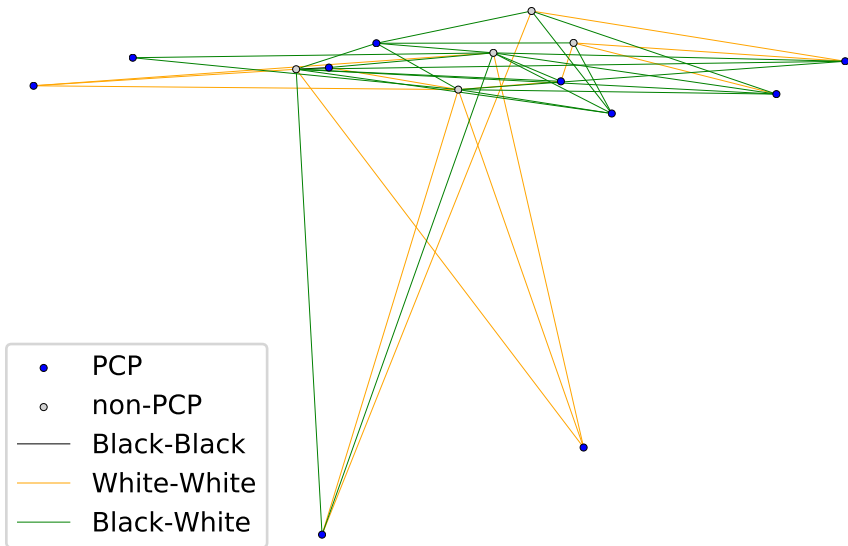
111

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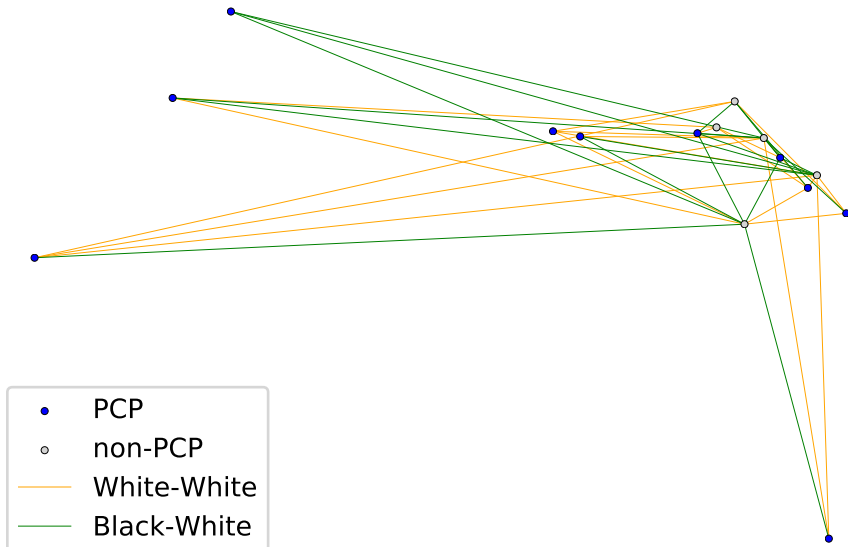
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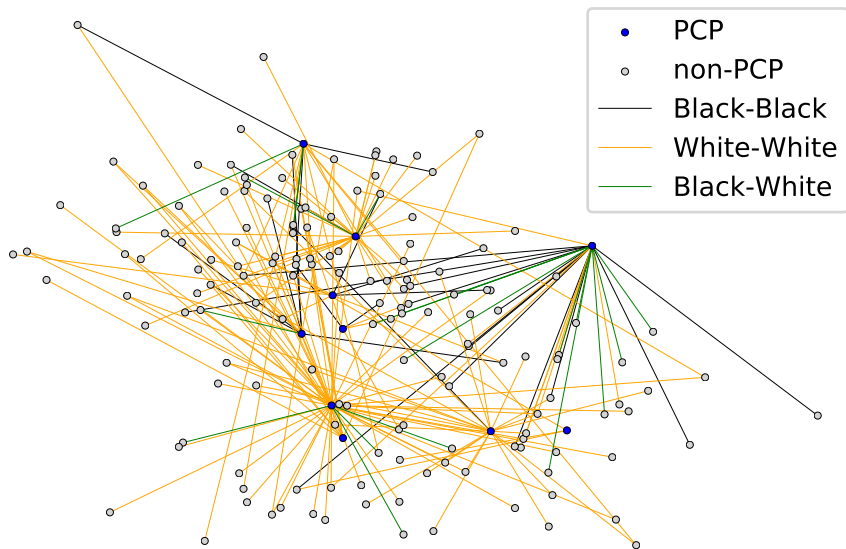
113

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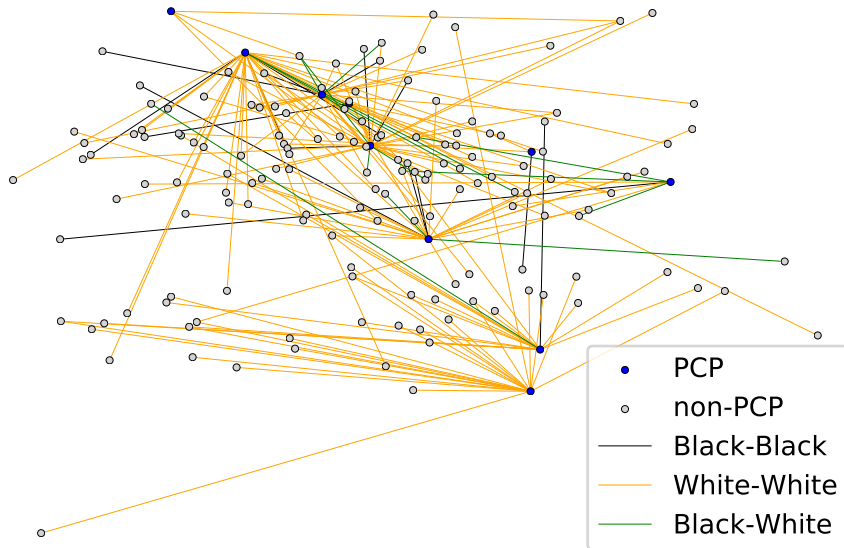
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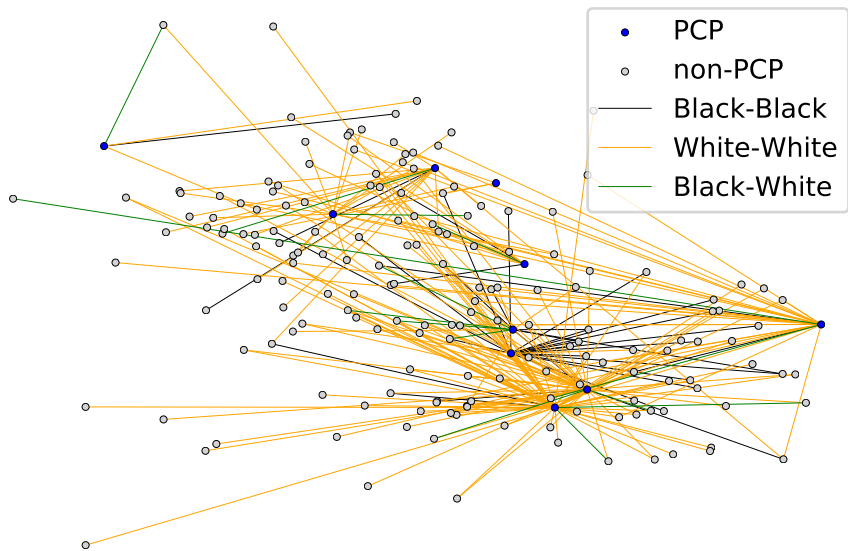
114



115

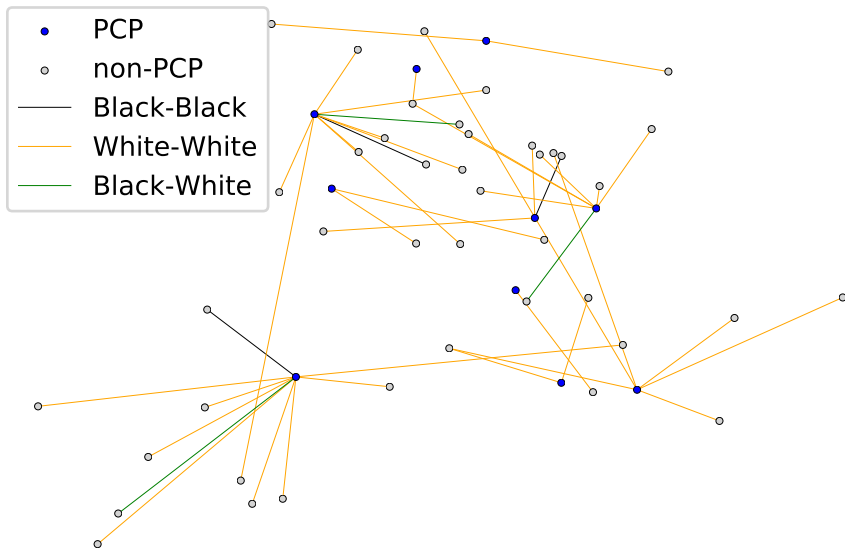
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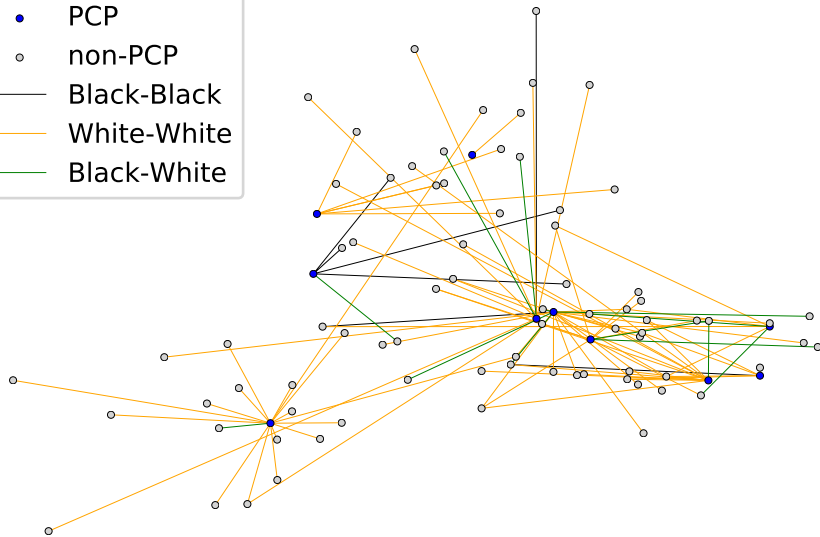
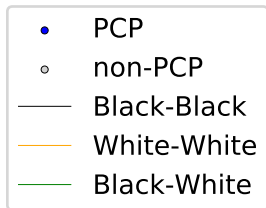




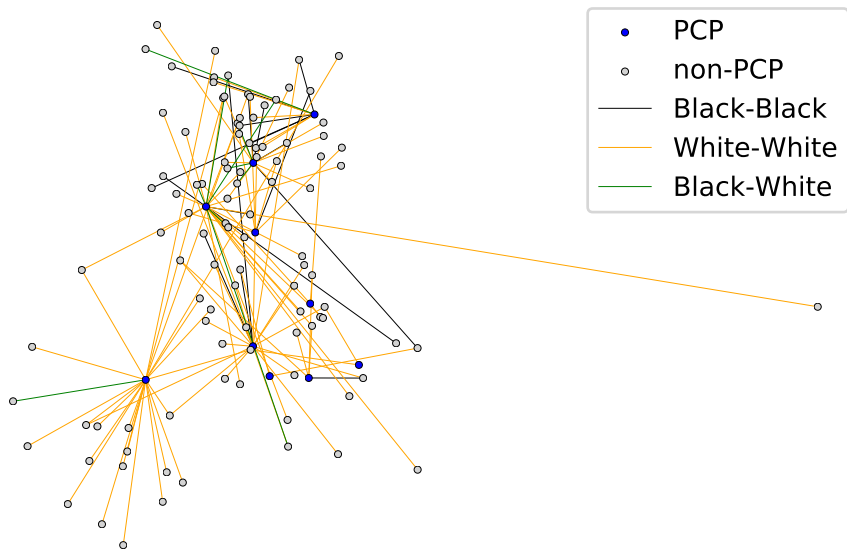
117

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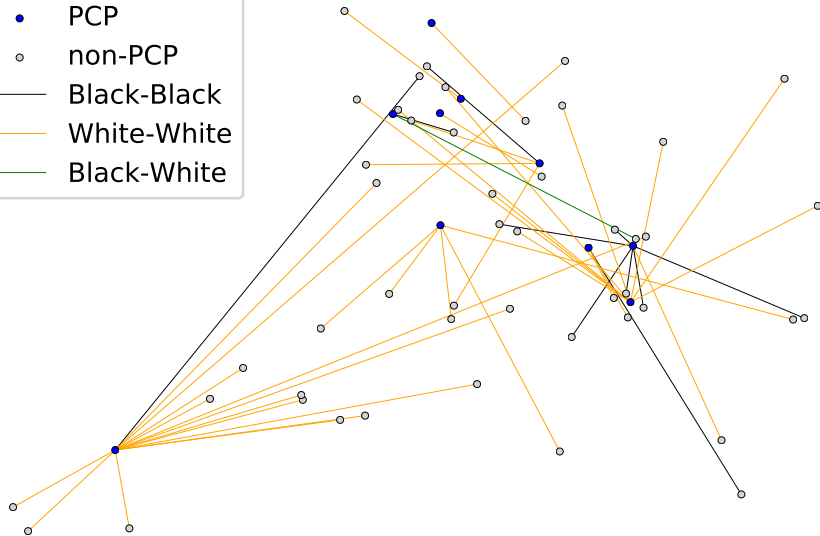
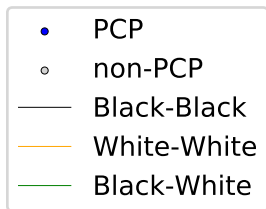


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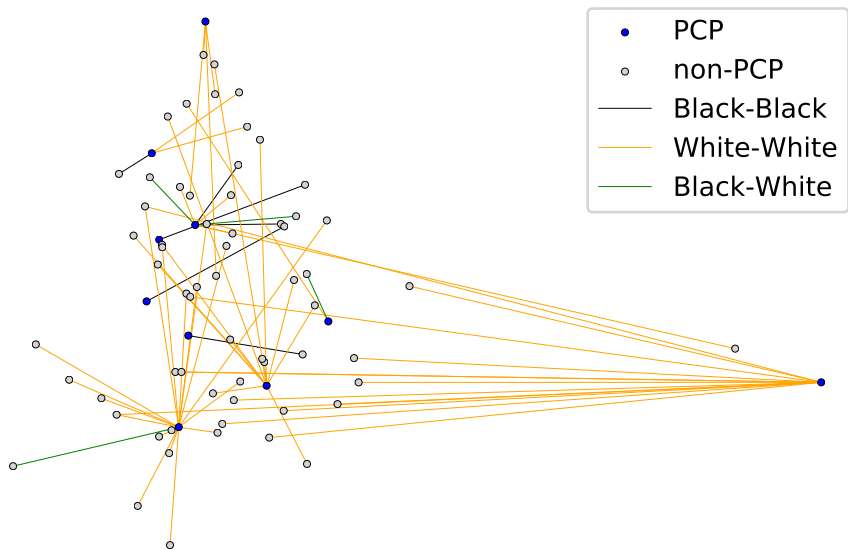


HRR: 7; Specialty: 3; Sample: 1

120

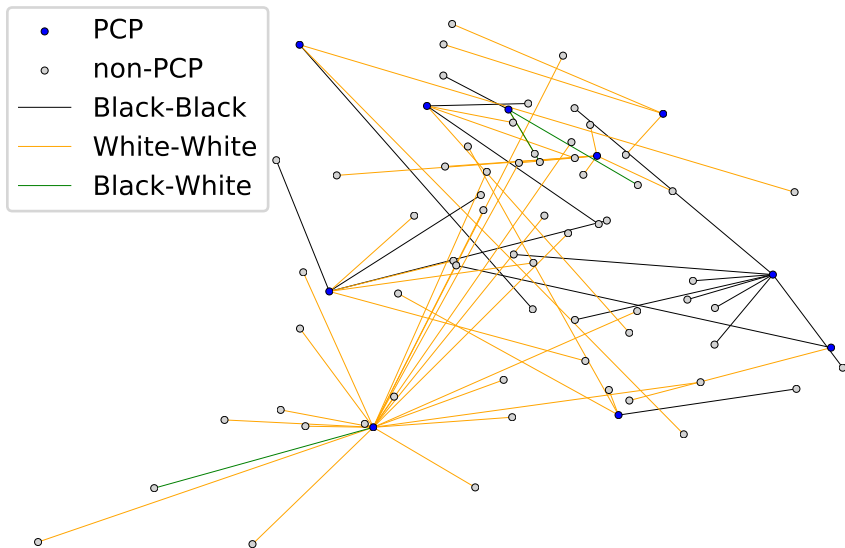


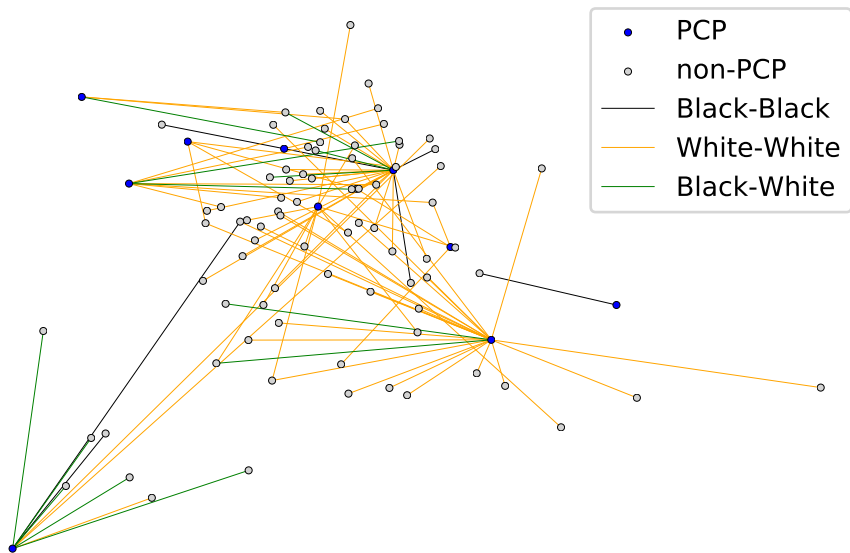
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122

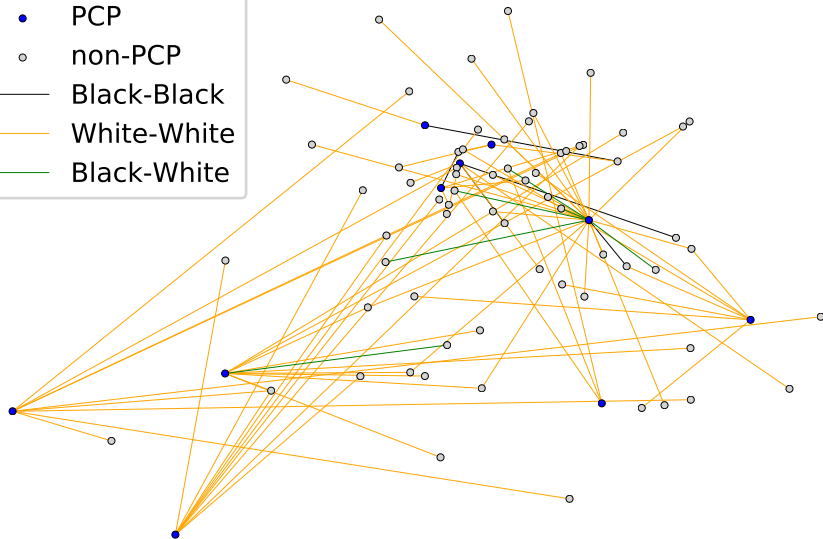
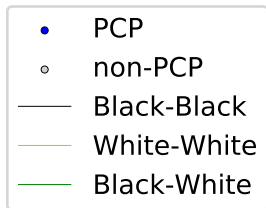
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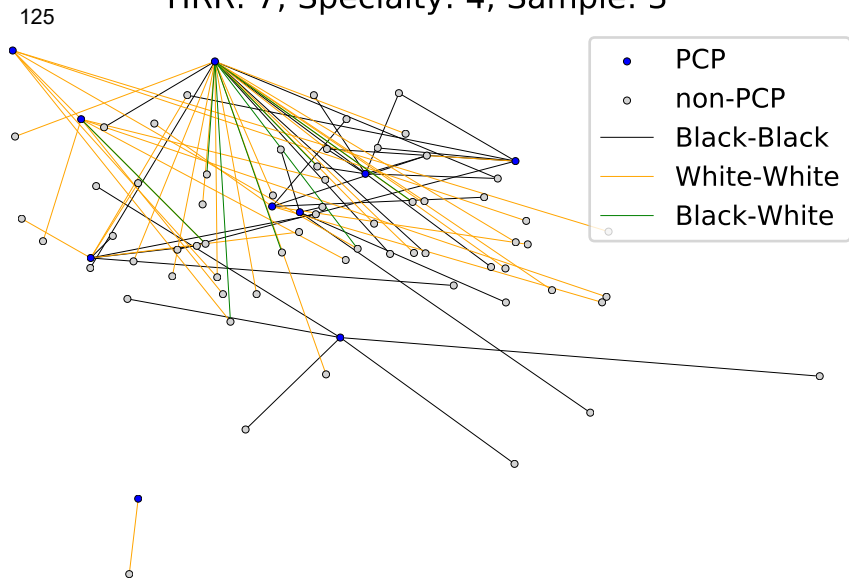


124

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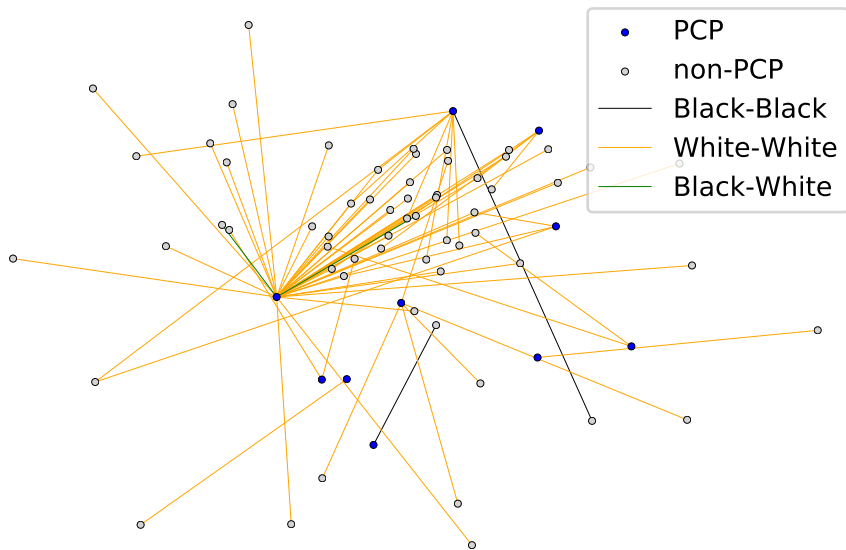


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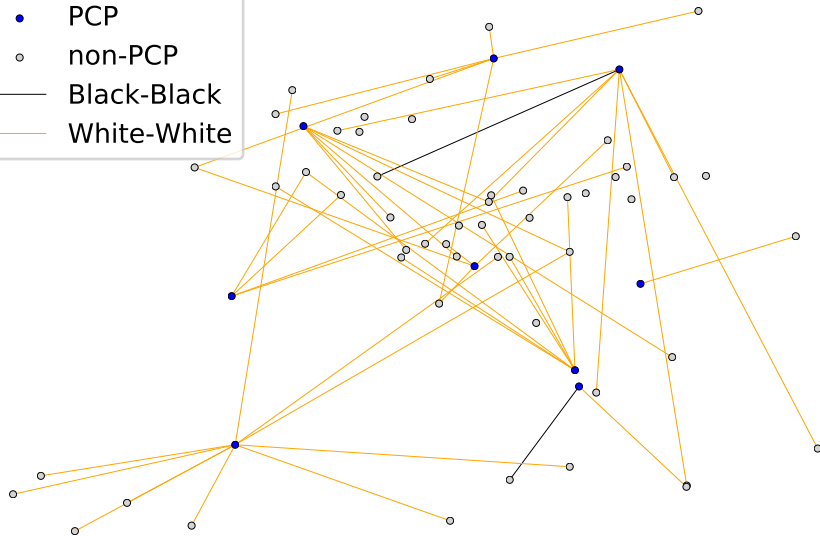
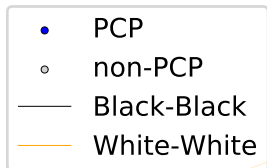
126

HRR: 7; Specialty: 5; Sample: 1



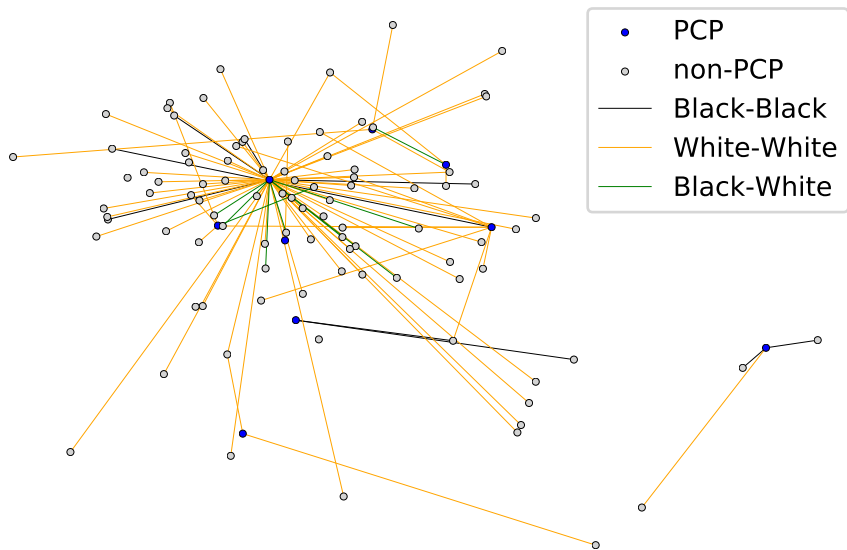
127

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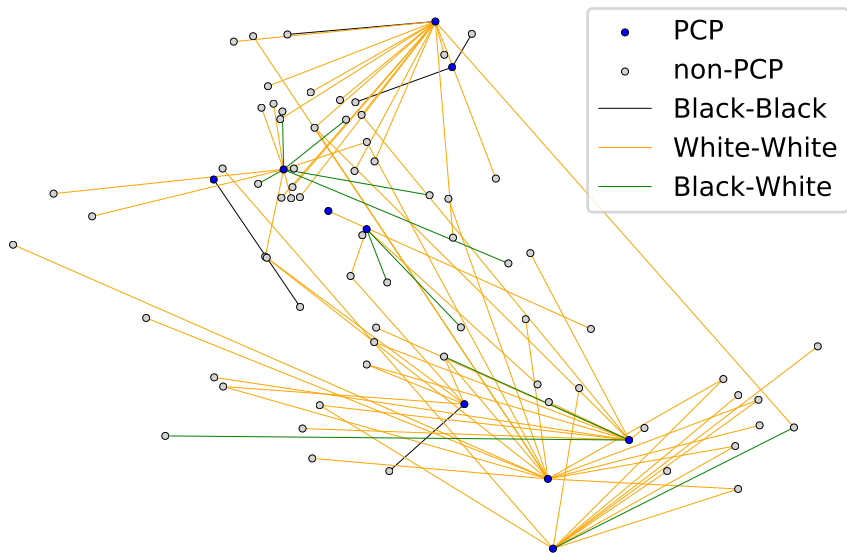


128

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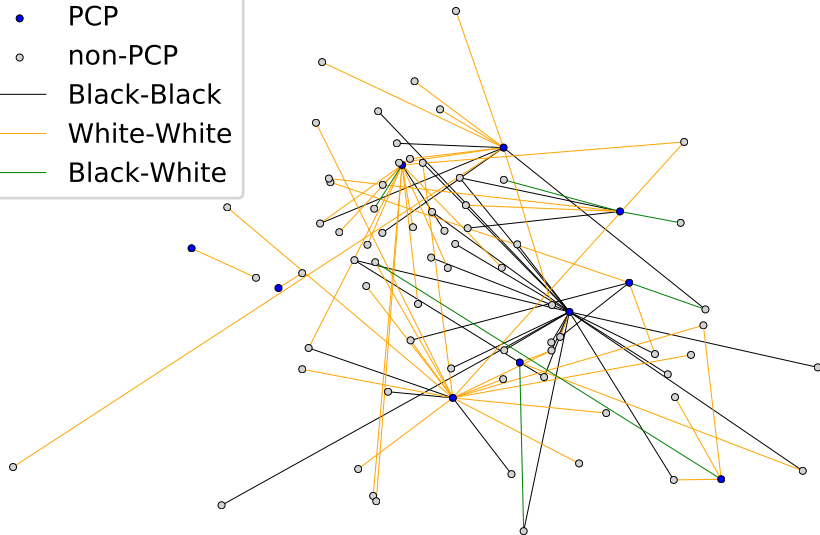
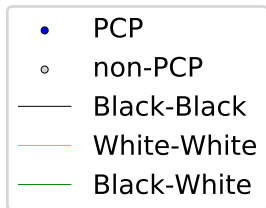


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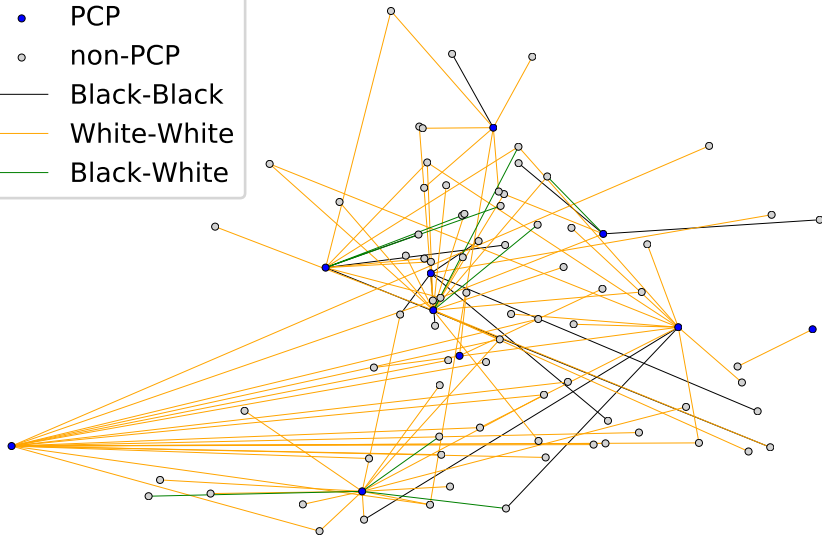
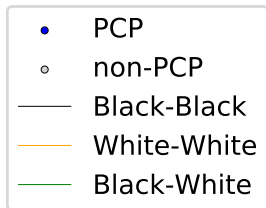
130

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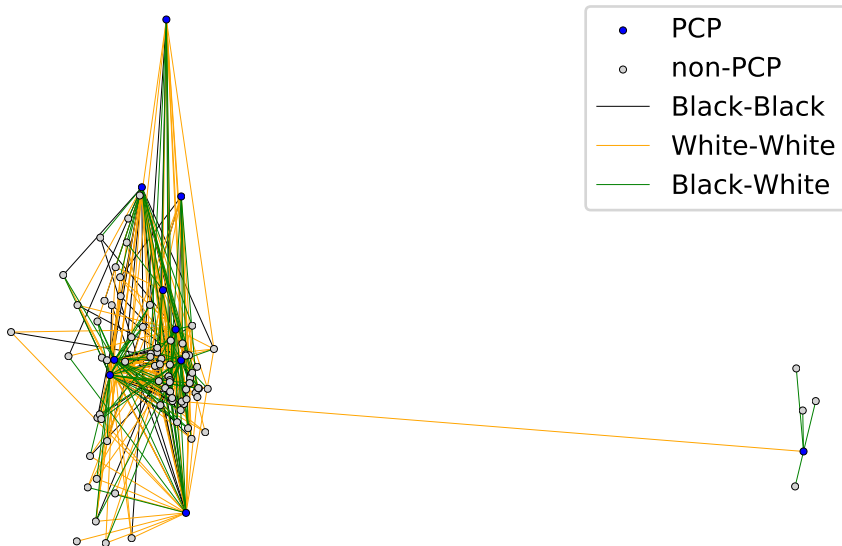
131

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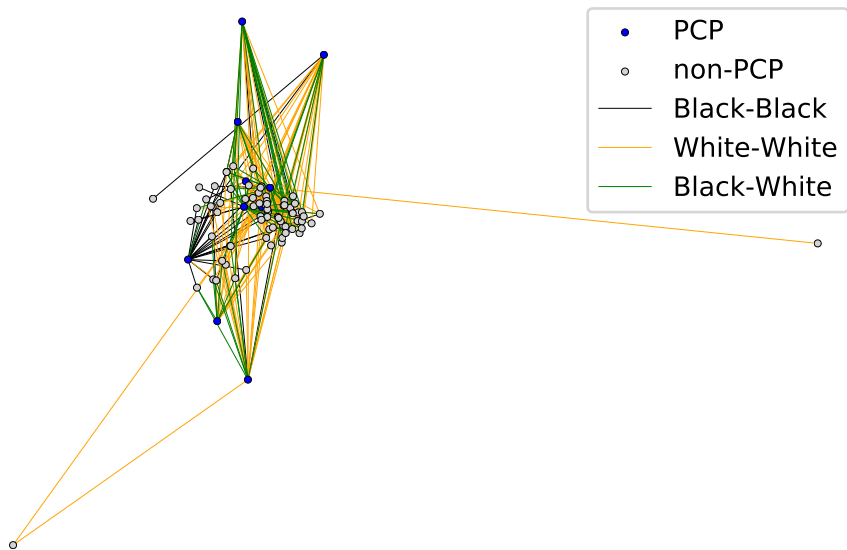


132

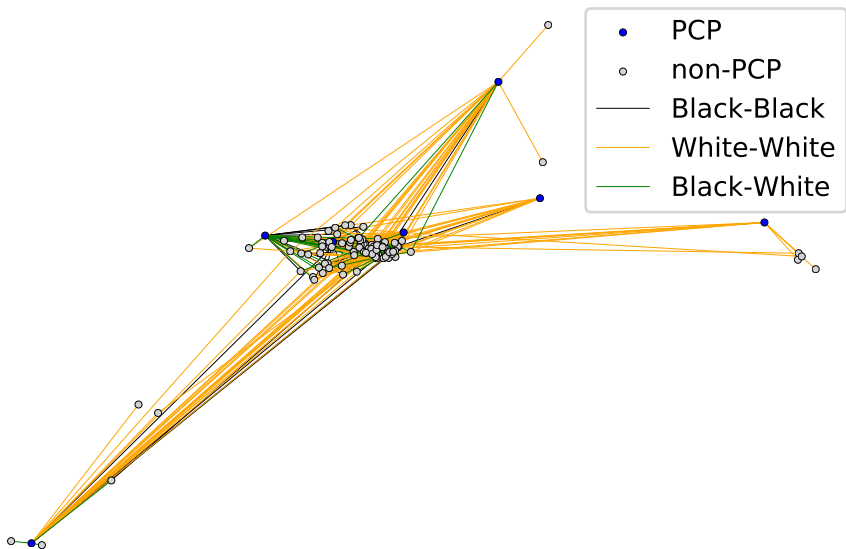
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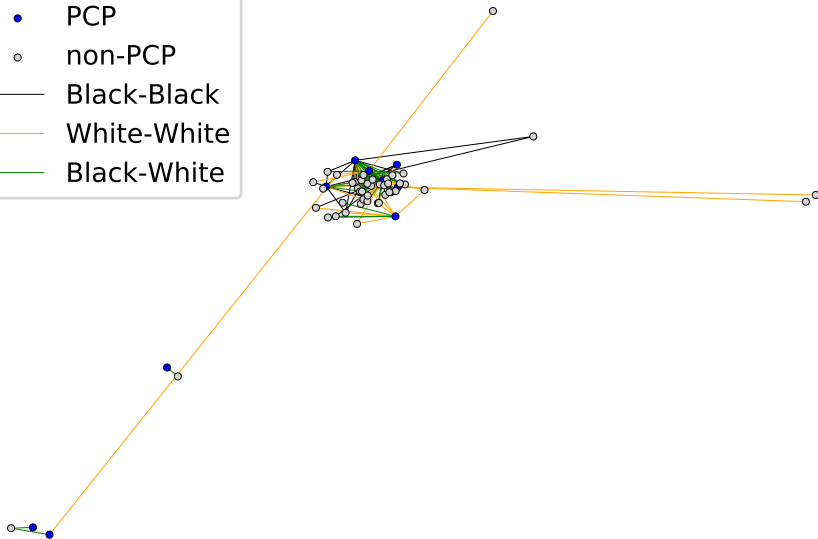
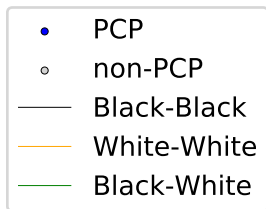


HRR: 8; Specialty: 1; Sample: 3



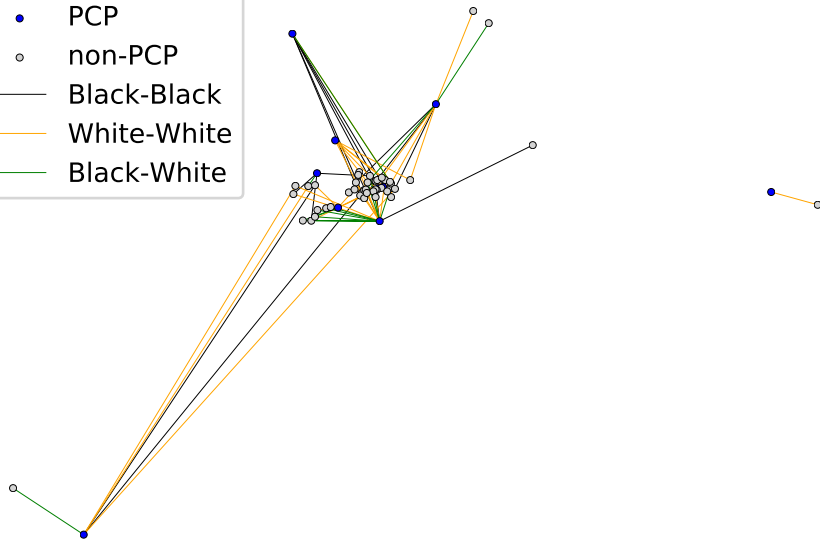
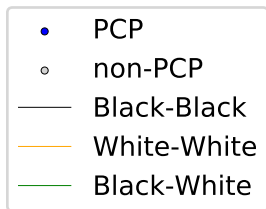
HRR: 8; Specialty: 2; Sample: 1

135



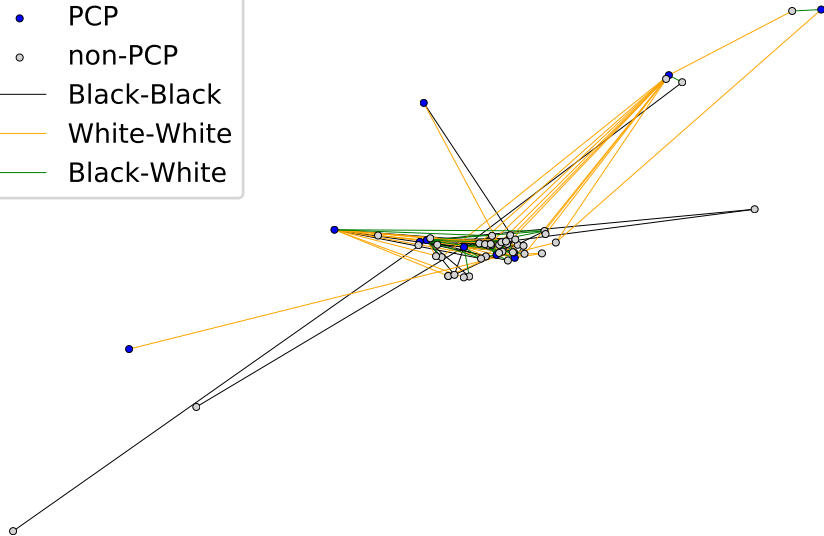
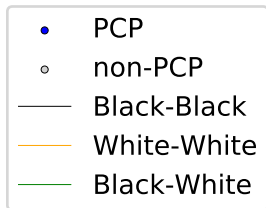
HRR: 8; Specialty: 2; Sample: 2

136



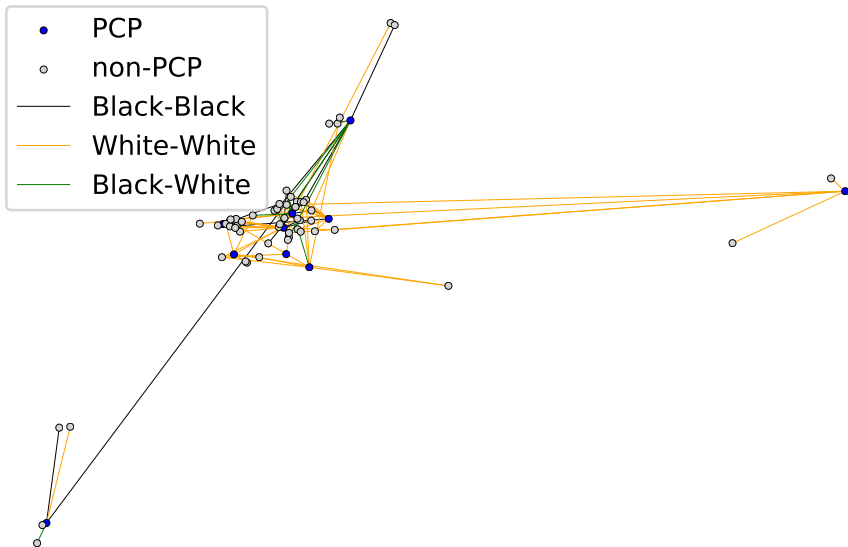
137

HRR: 8; Specialty: 2; Sample: 3

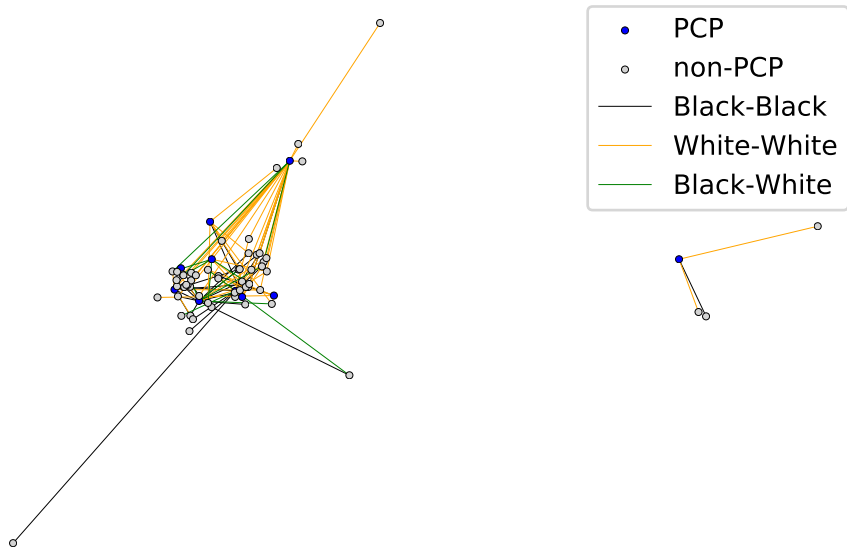


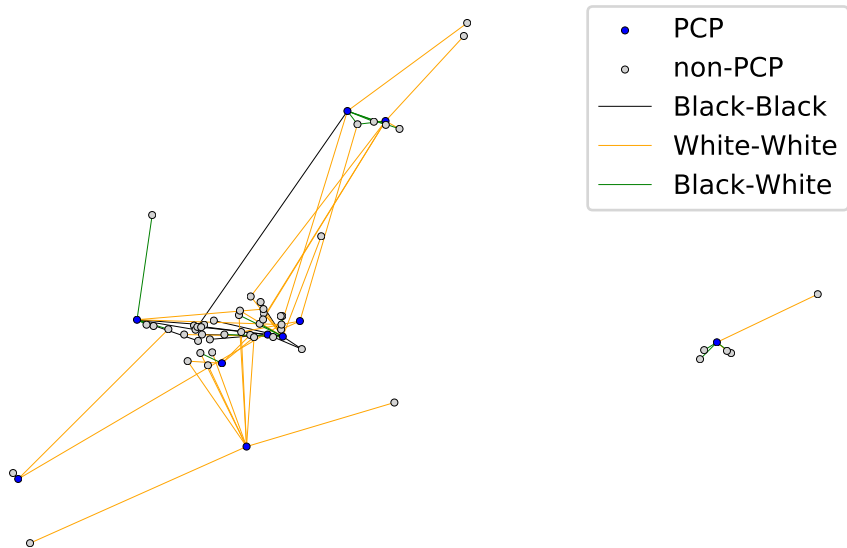
HRR: 8; Specialty: 3; Sample: 1

138



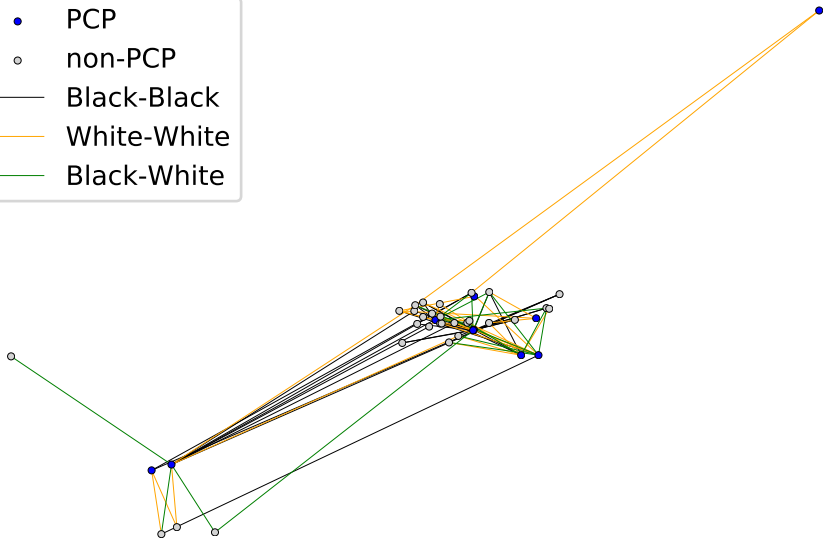
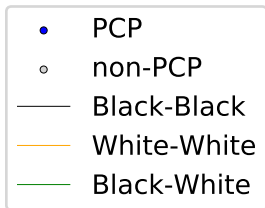
HRR: 8; Specialty: 3; Sample: 2





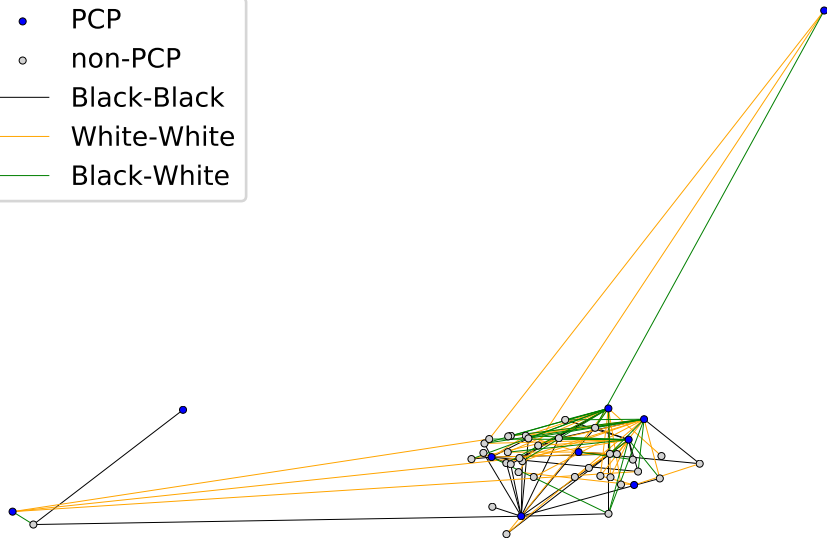
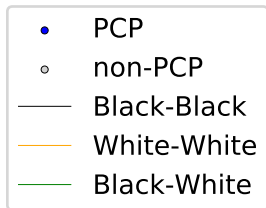
141

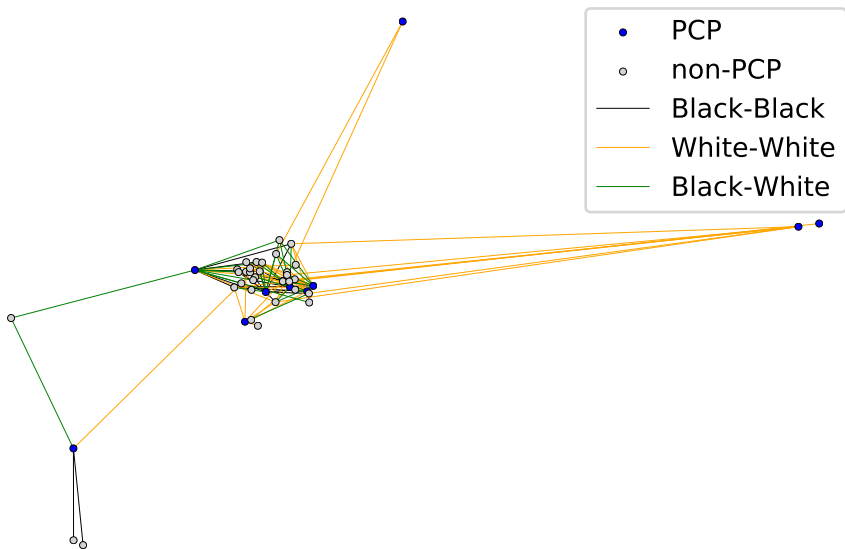
HRR: 8; Specialty: 4; Sample: 1



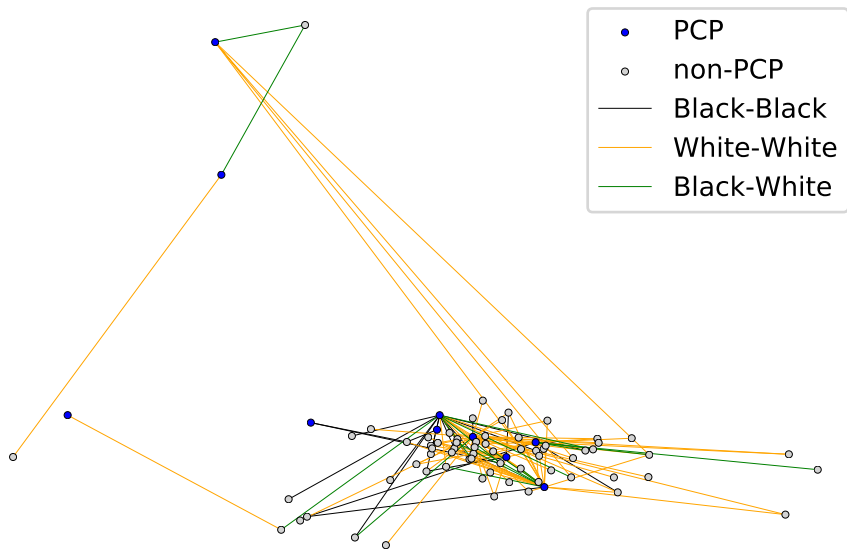
142

HRR: 8; Specialty: 4; Sample: 2



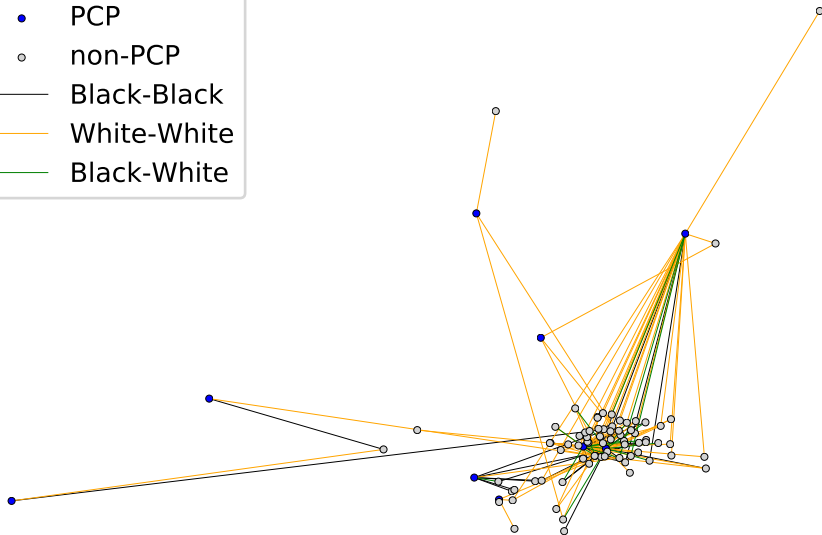
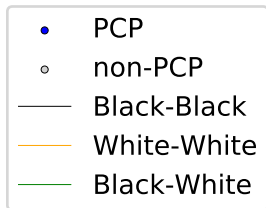


HRR: 8; Specialty: 5; Sample: 1



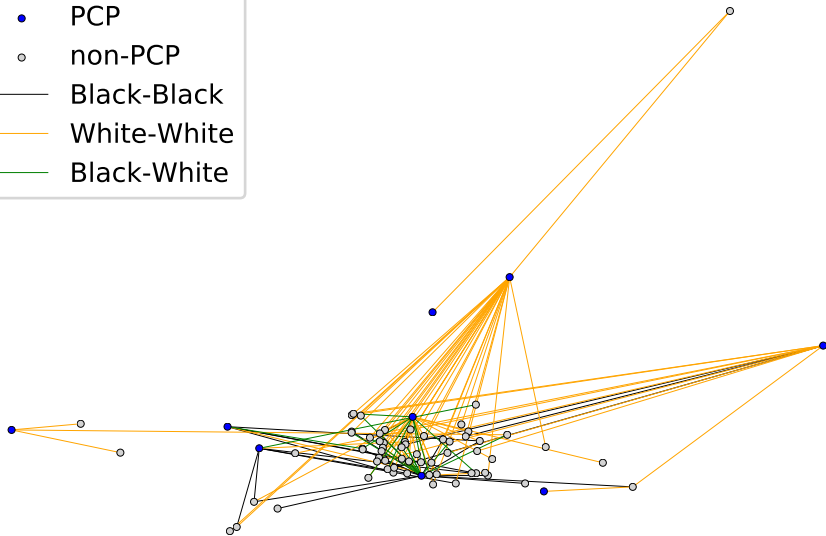
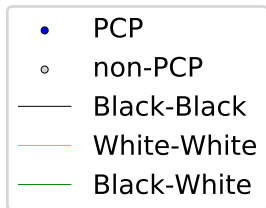
145

HRR: 8; Specialty: 5; Sample: 2



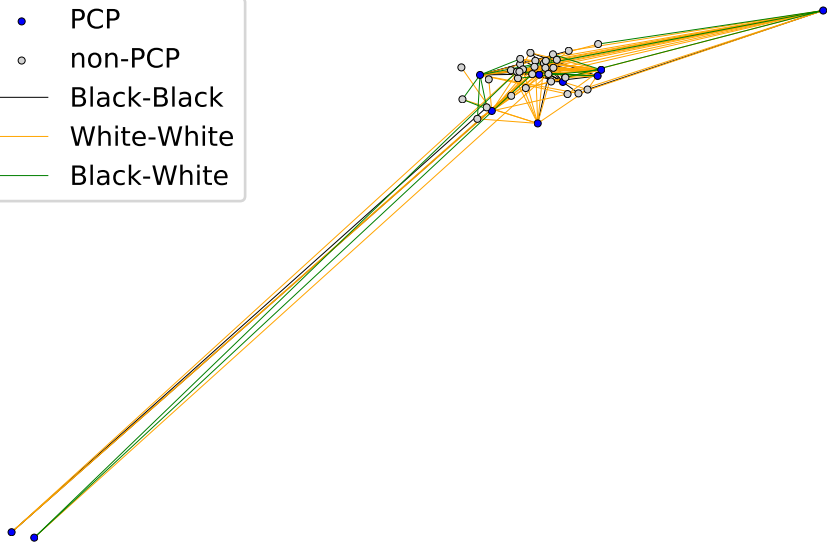
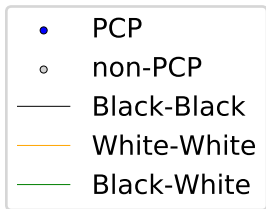
146

HRR: 8; Specialty: 5; Sample: 3



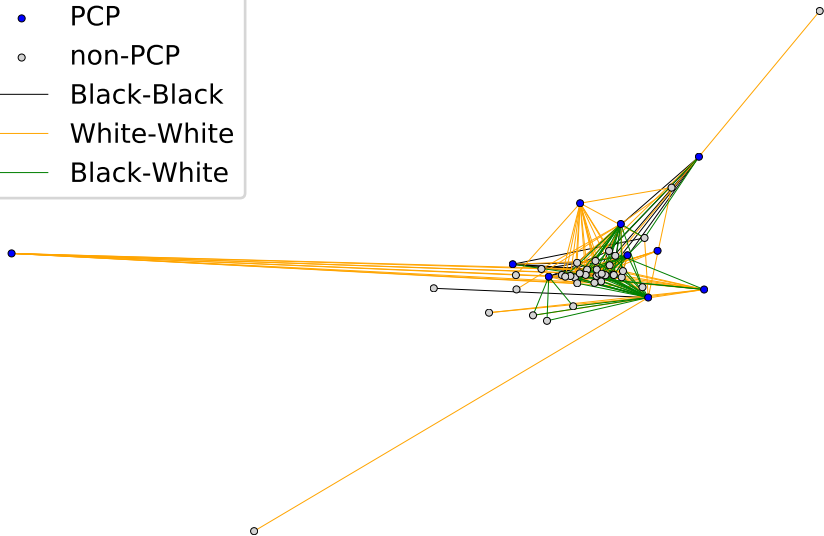
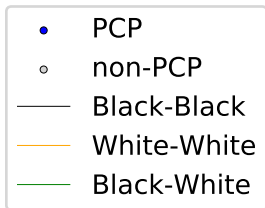
HRR: 8; Specialty: 6; Sample: 1

147



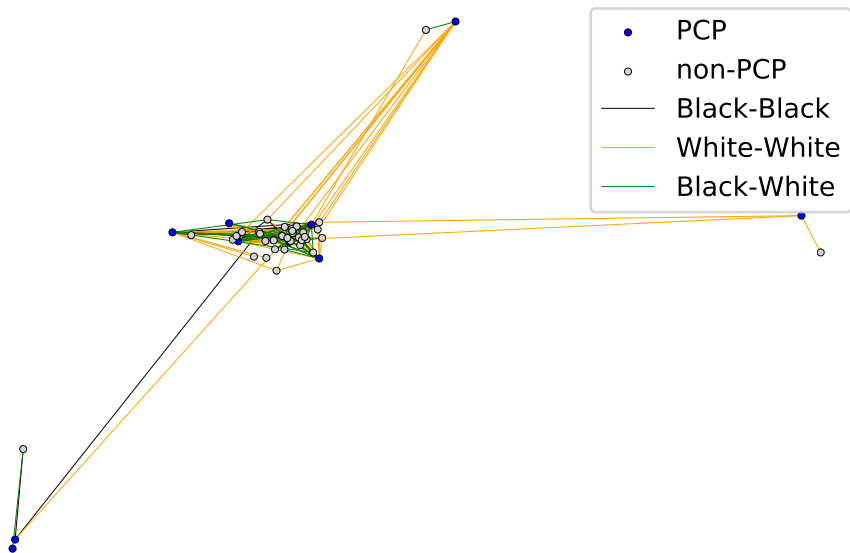
HRR: 8; Specialty: 6; Sample: 2

148



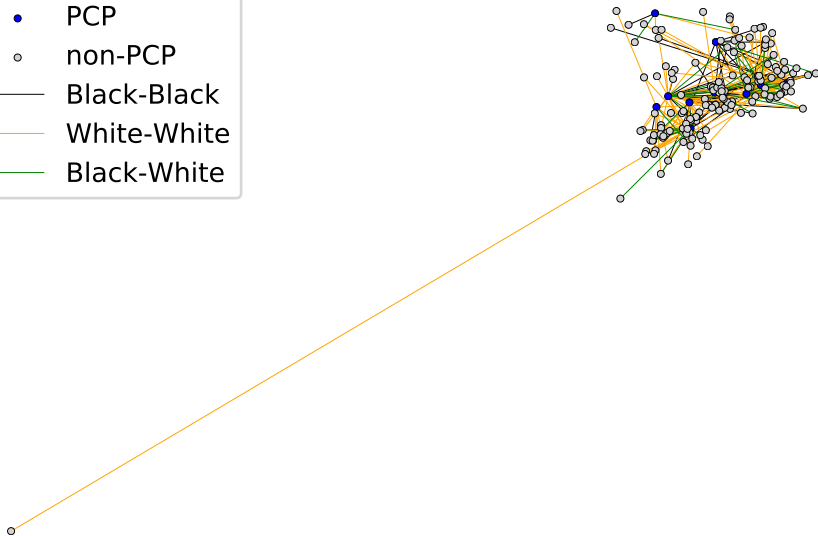
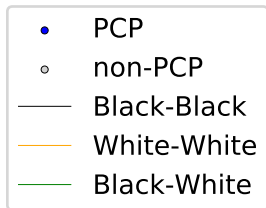
149

HRR: 8; Specialty: 6; Sample: 3



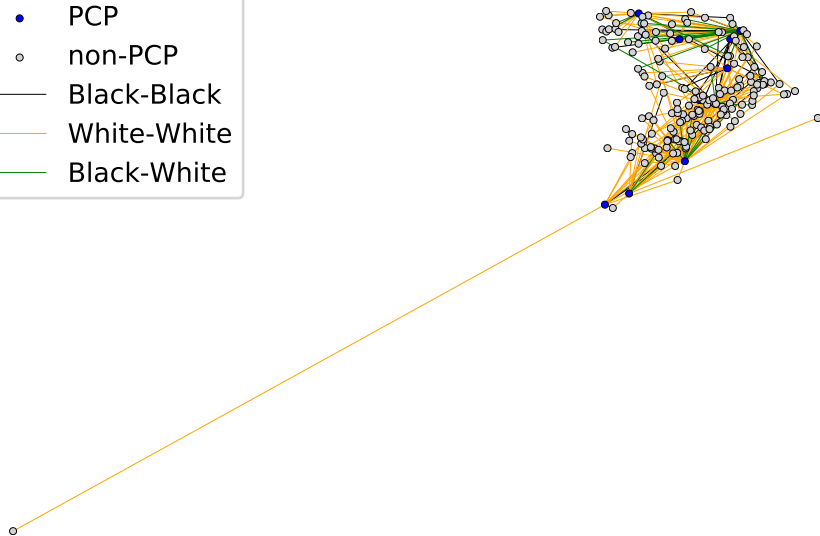
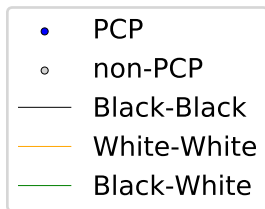
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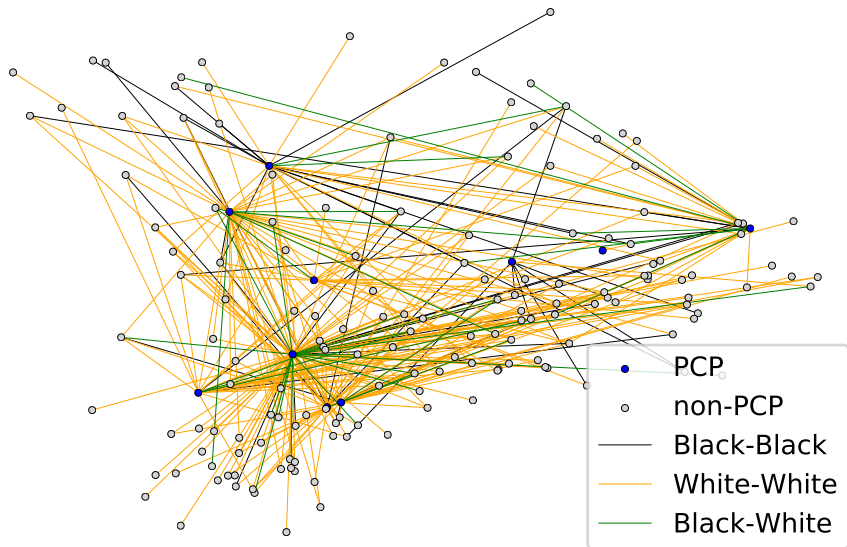
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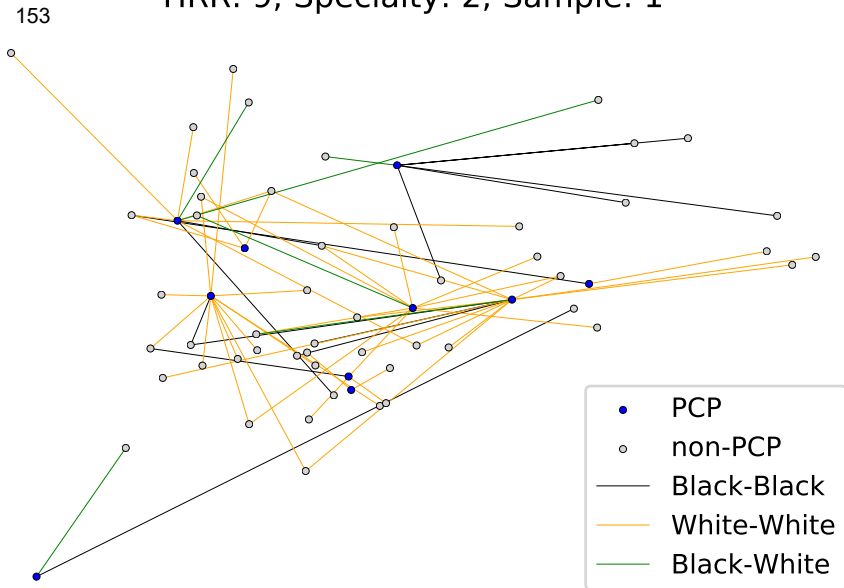
HRR: 9; Specialty: 1; Sample: 2

151



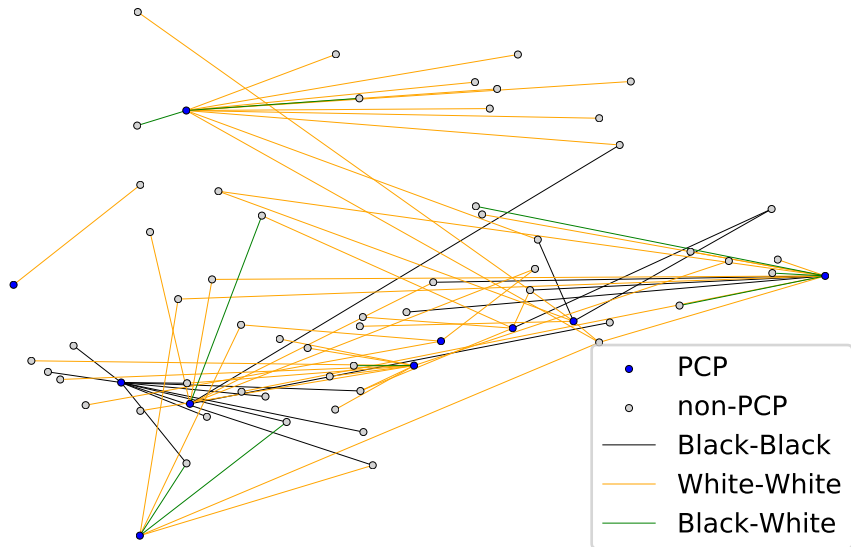


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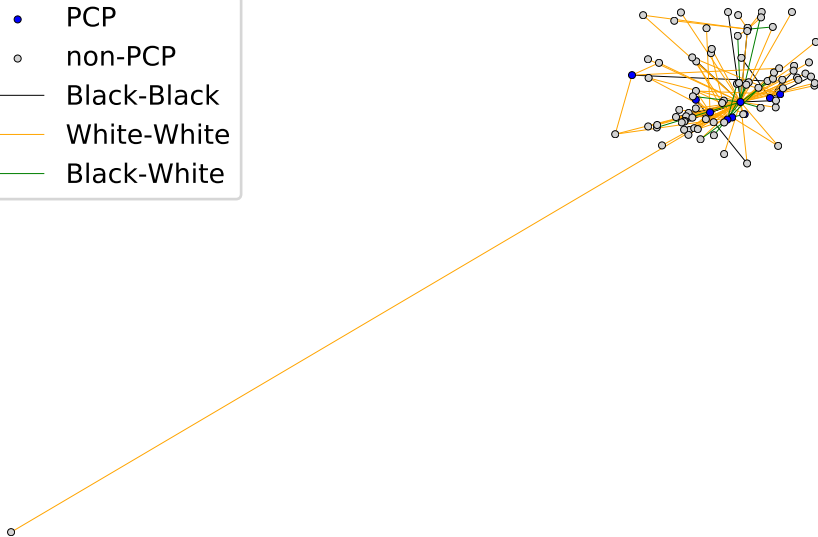
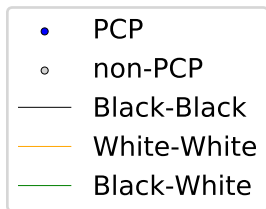
154

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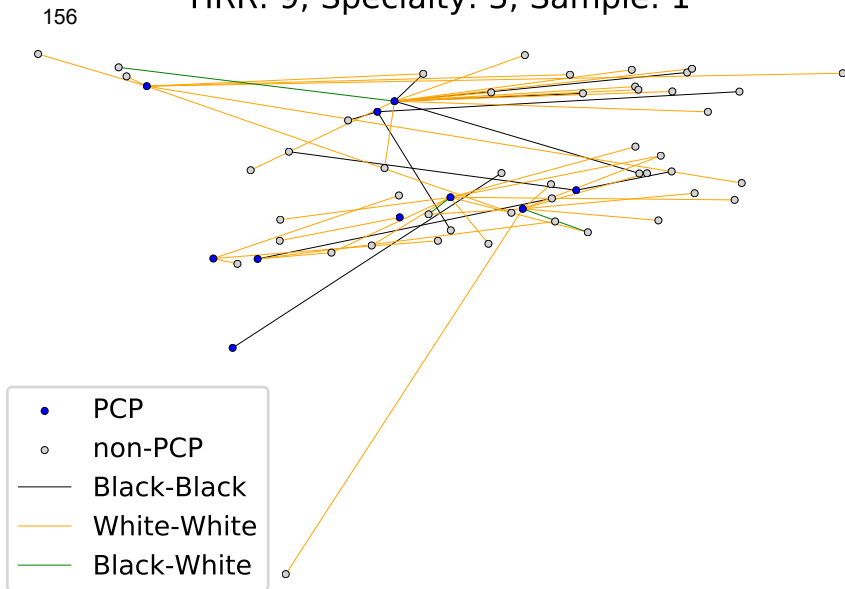


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155

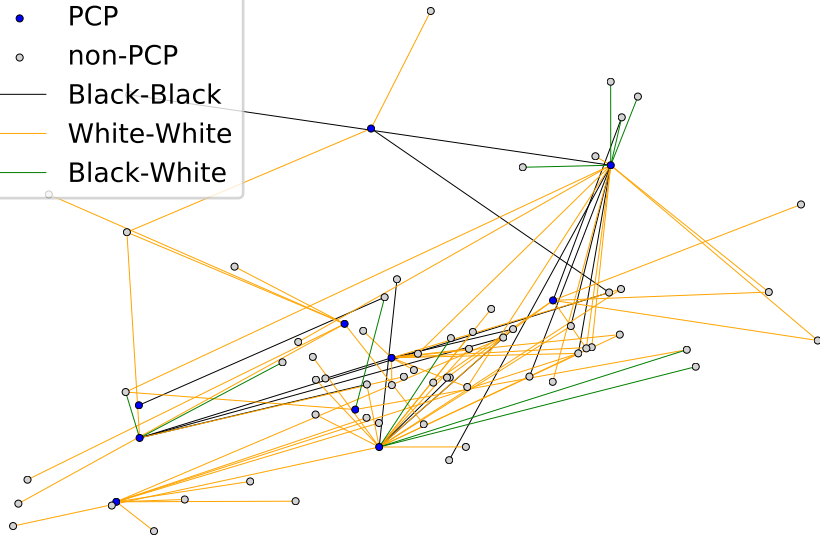
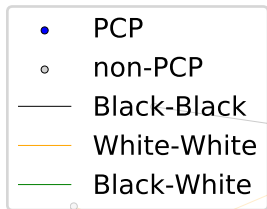


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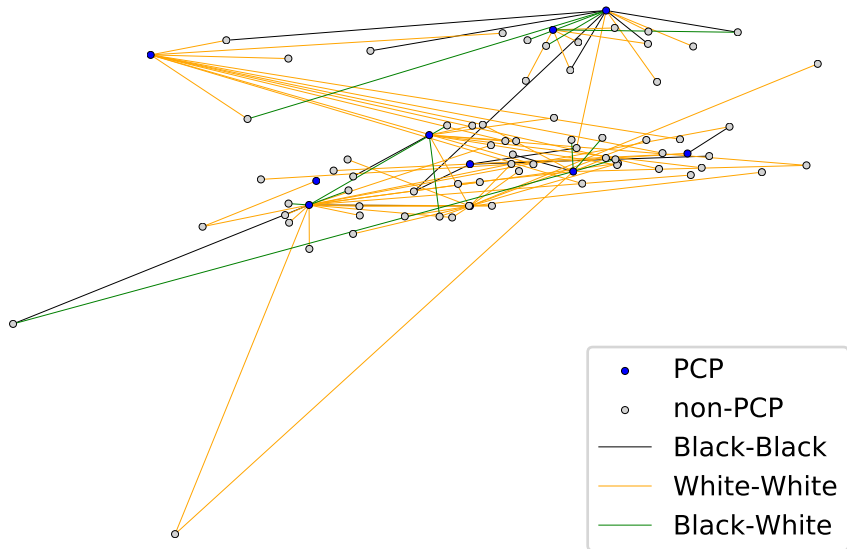


157

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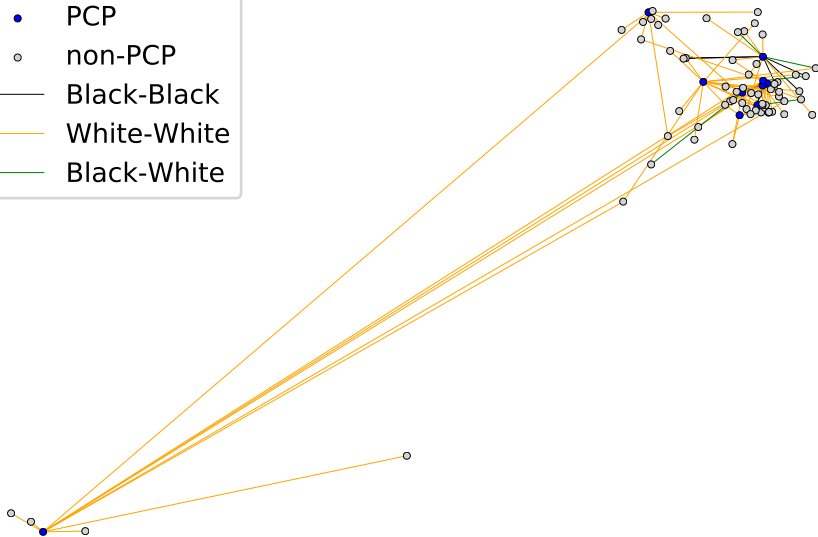
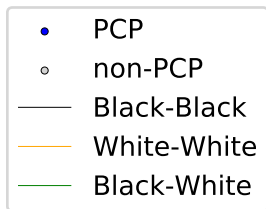


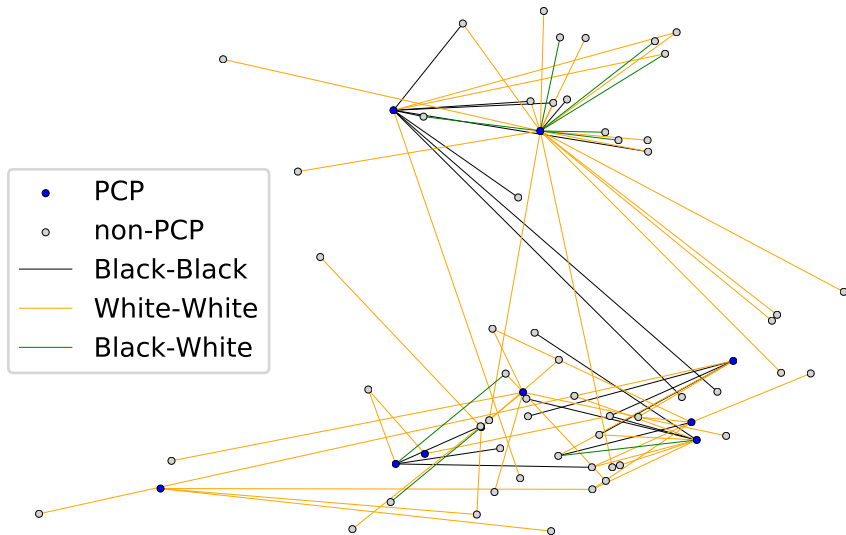
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159

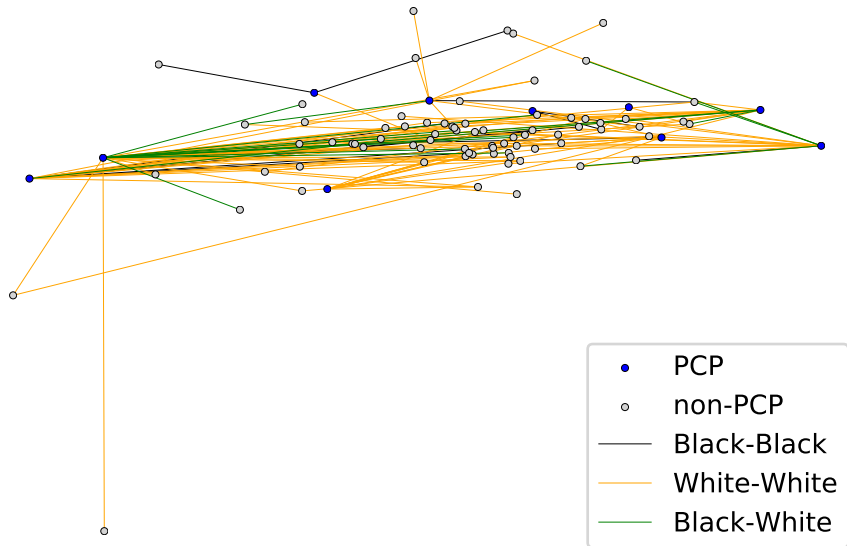
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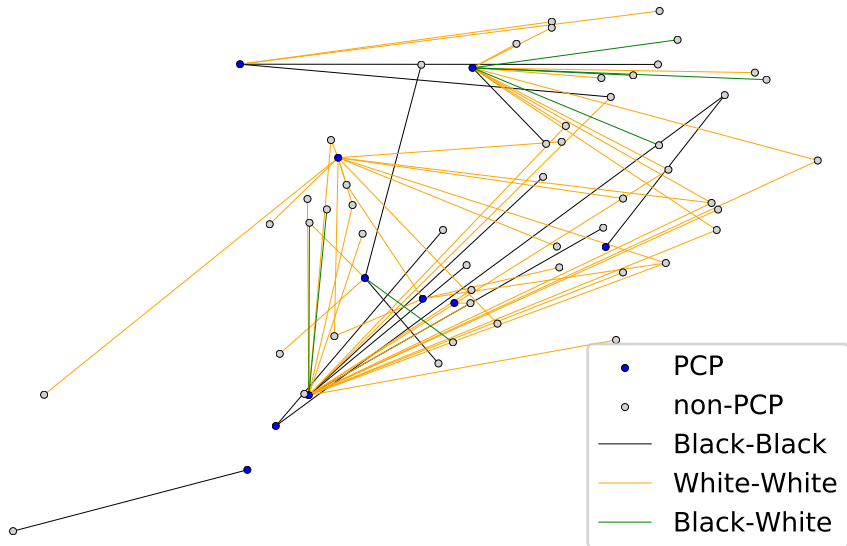


161

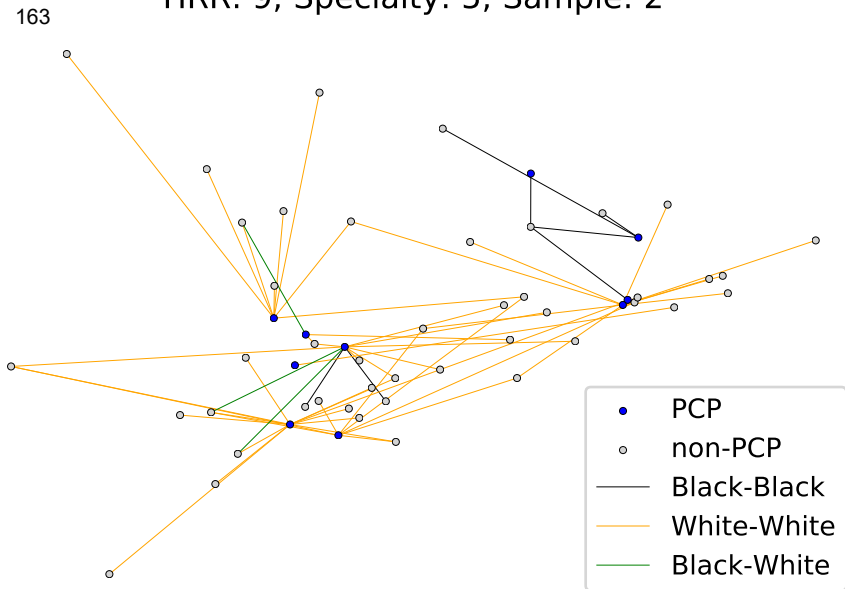
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HRR: 9; Specialty: 5; Sample: 1

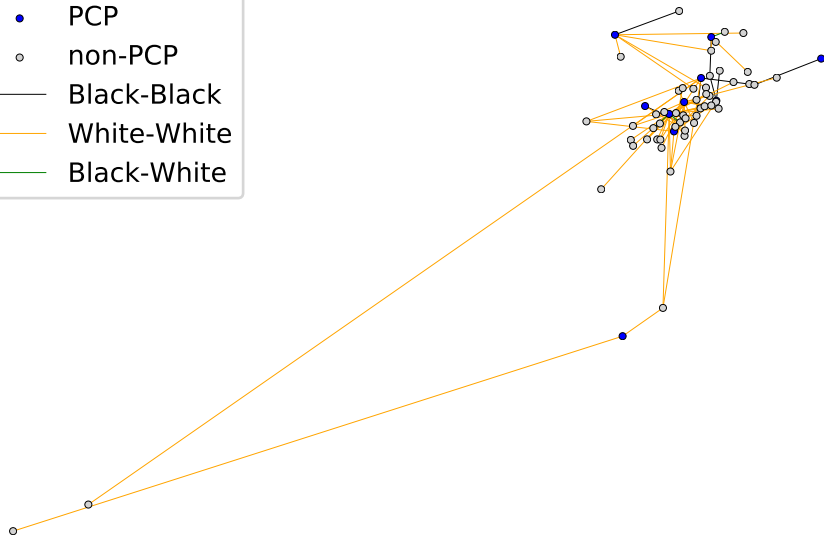
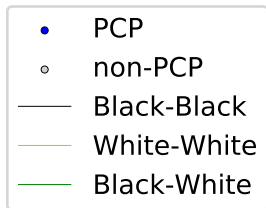


HRR: 9; Specialty: 5; Sample: 2



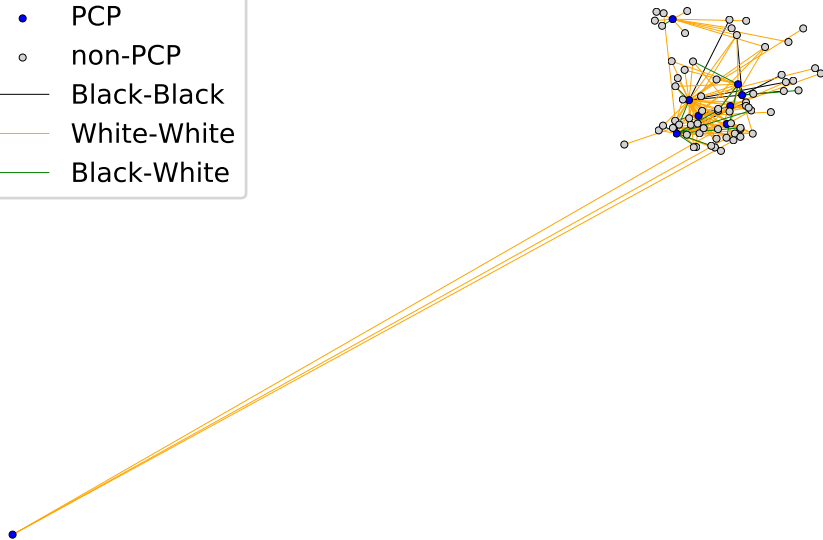
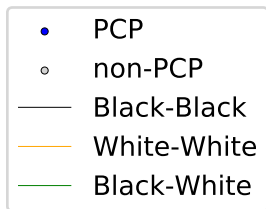
164

HRR: 9; Specialty: 5; Sample: 3



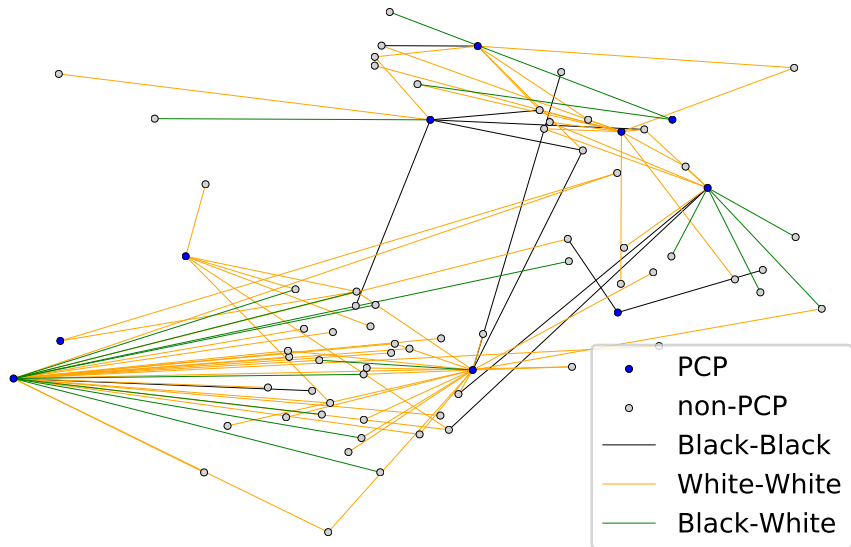
HRR: 9; Specialty: 6; Sample: 1

165



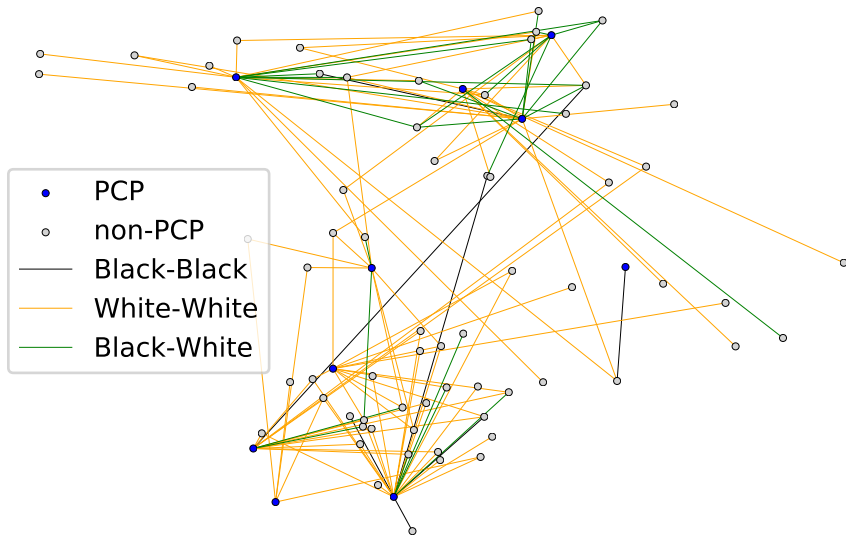
166

HRR: 9; Specialty: 6; Sample: 2



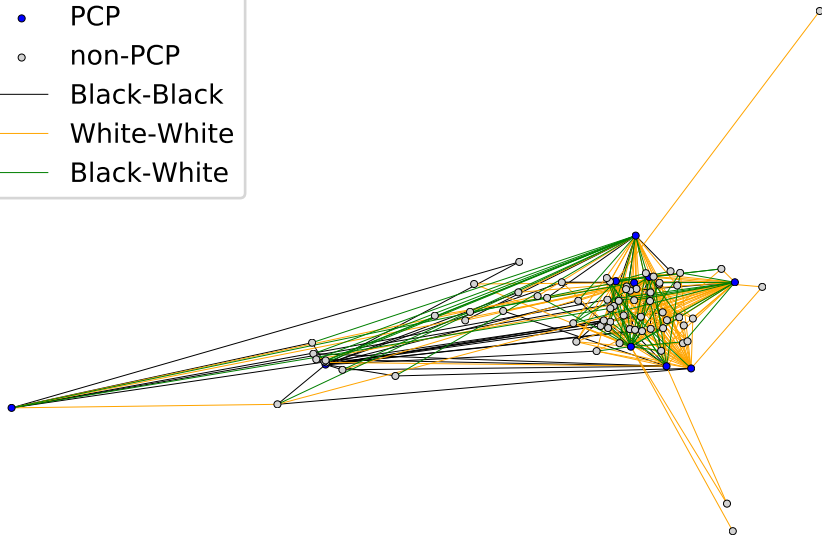
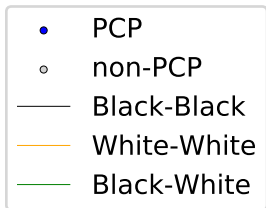
167

HRR: 9; Specialty: 6; Sample: 3



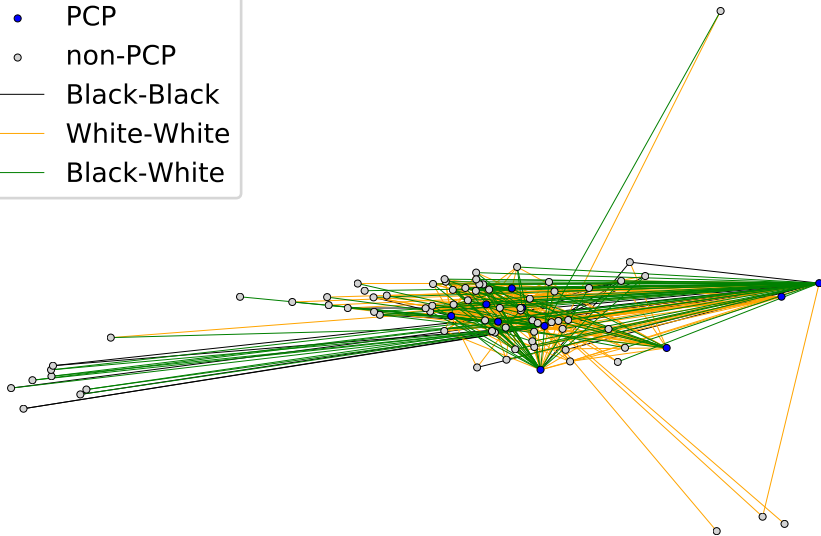
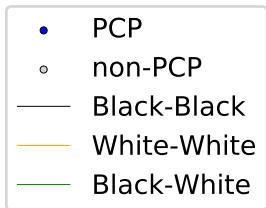
HRR: 10; Specialty: 1; Sample: 1

168



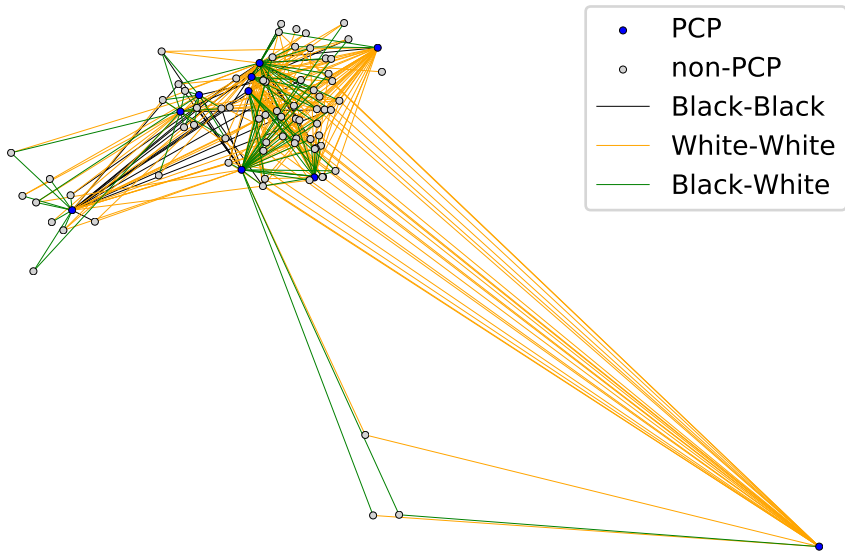
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169



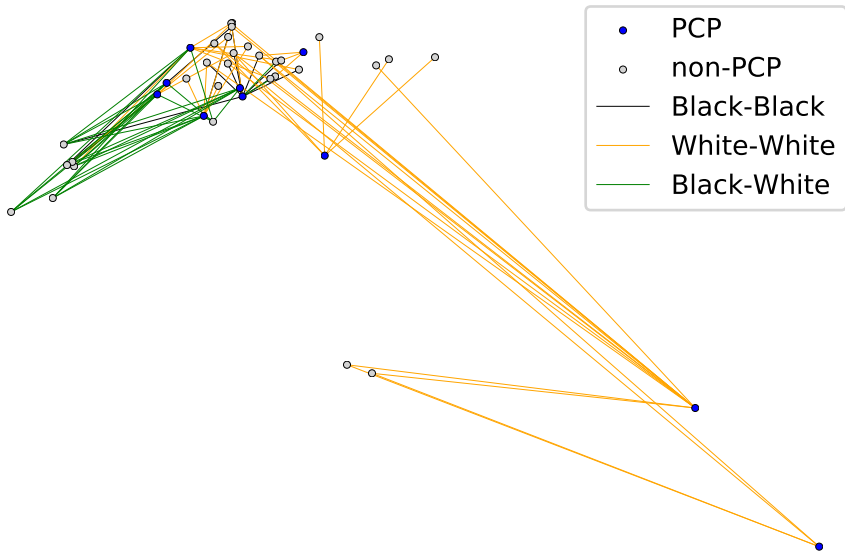
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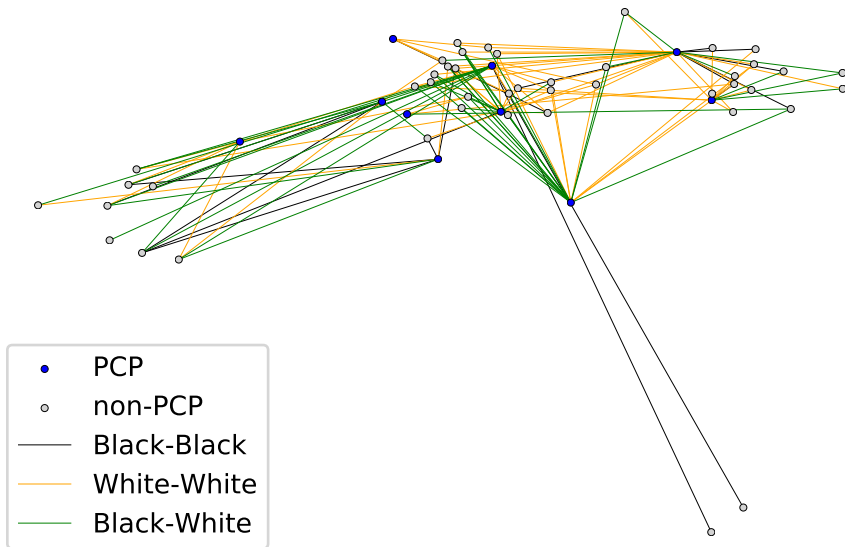
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171

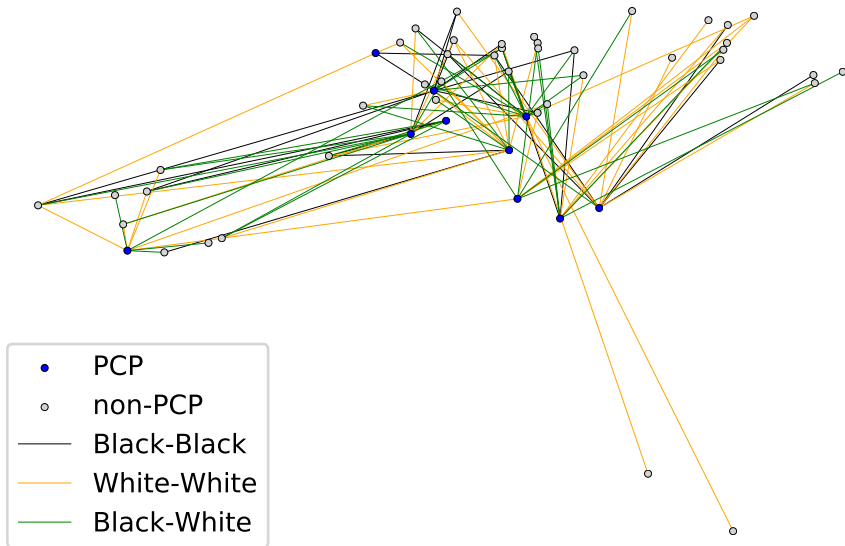
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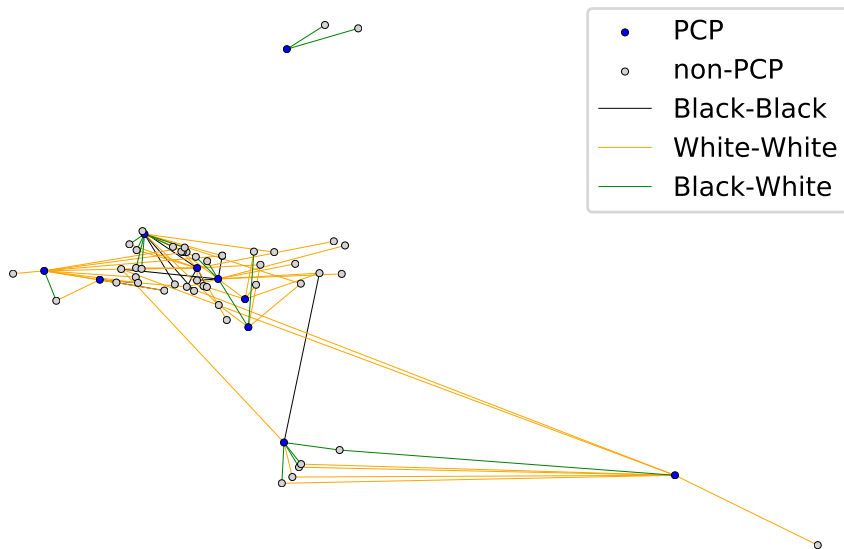
173

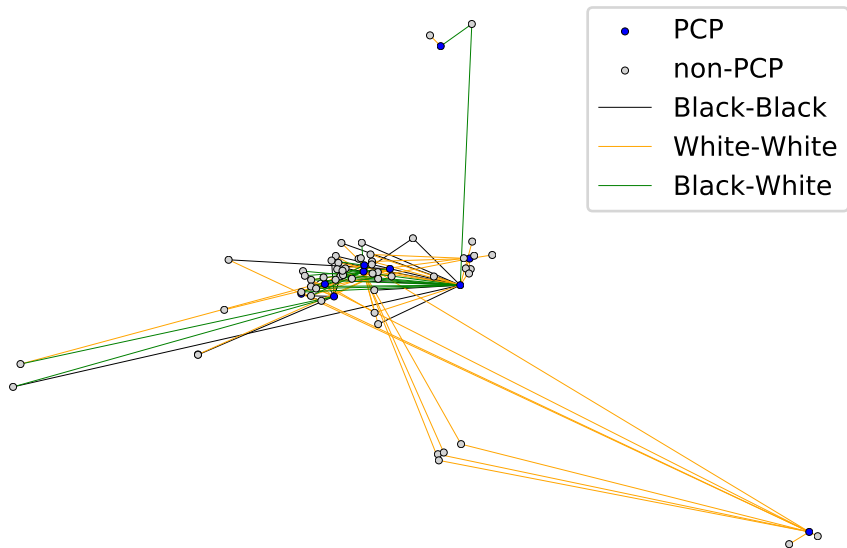
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174

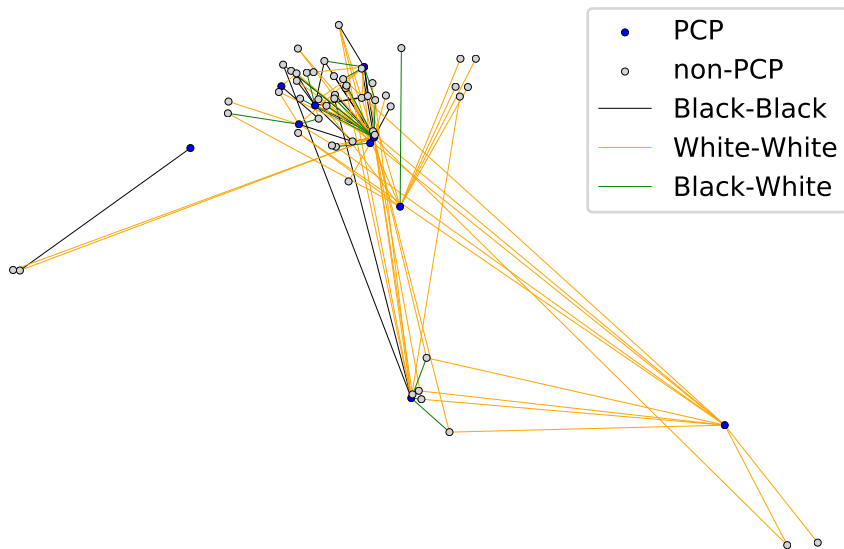
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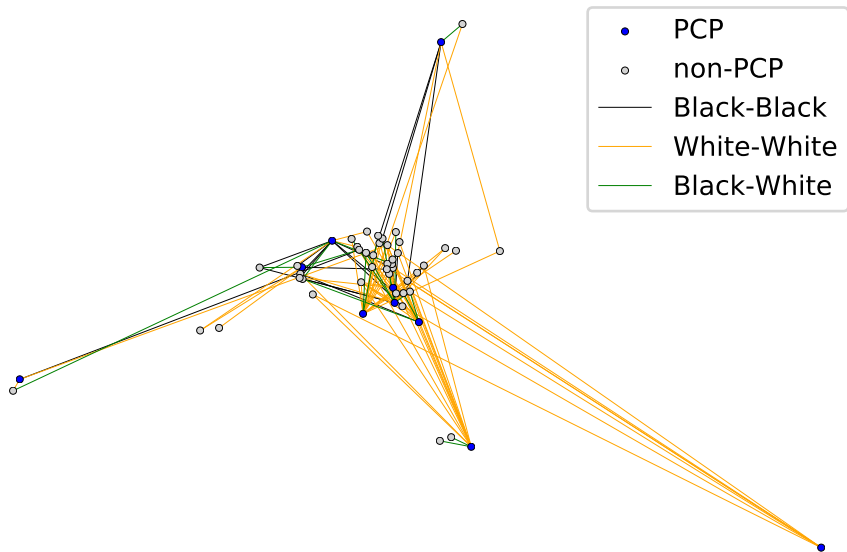




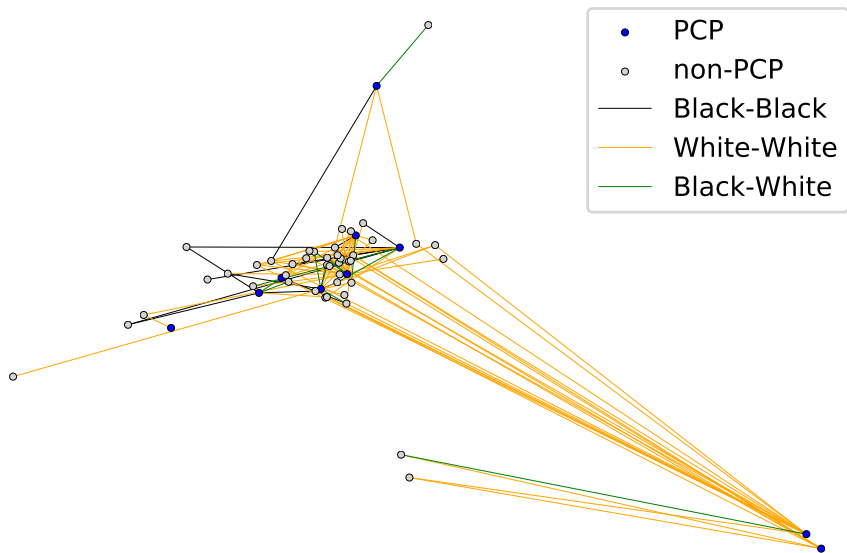
176

HRR: 10; Specialty: 3; Sample: 3



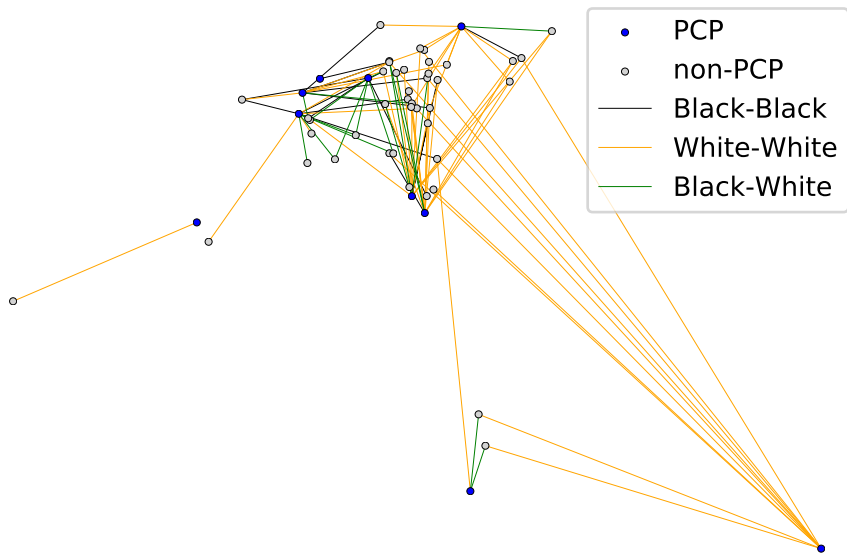


HRR: 10; Specialty: 4; Sample: 2



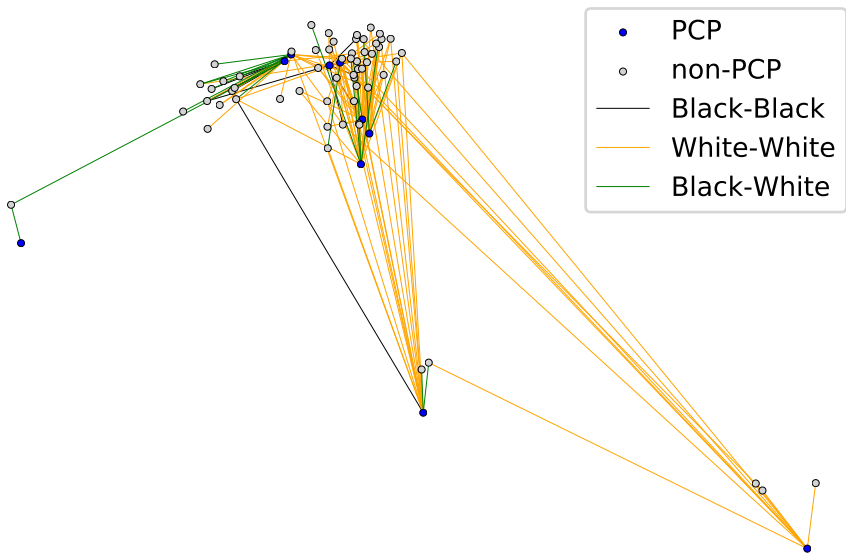
179

HRR: 10; Specialty: 4; Sample: 3



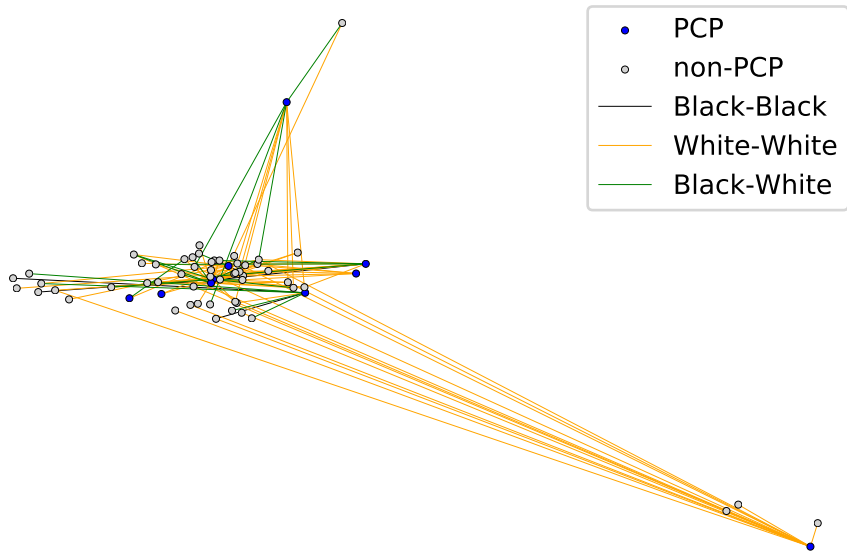
HRR: 10; Specialty: 5; Sample: 1

180



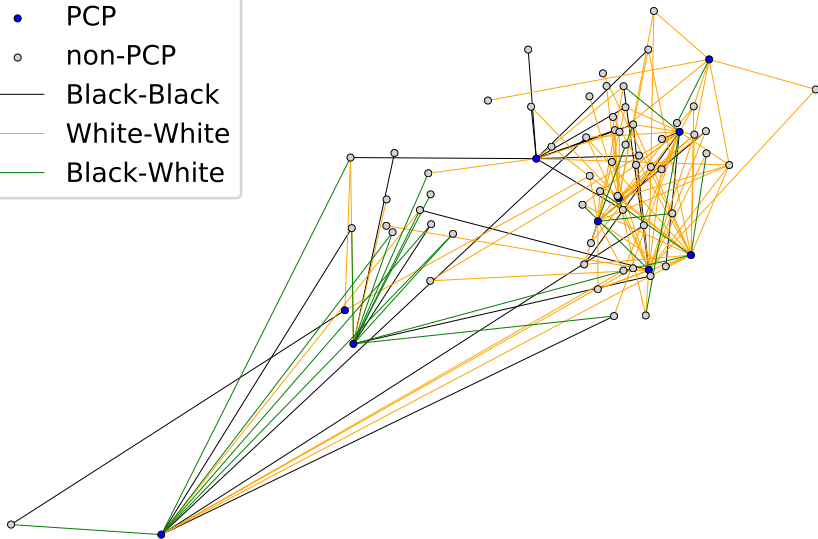
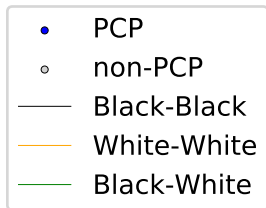
181

HRR: 10; Specialty: 5; Sample: 2



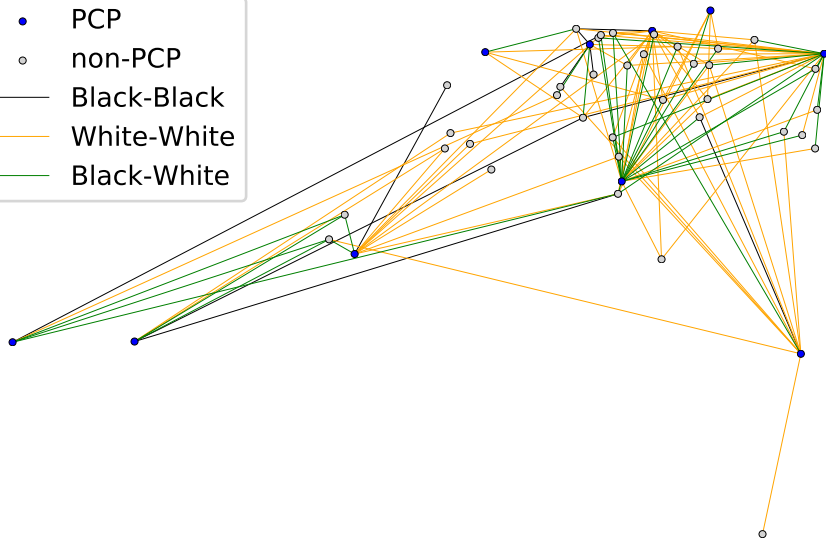
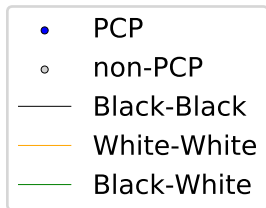
182

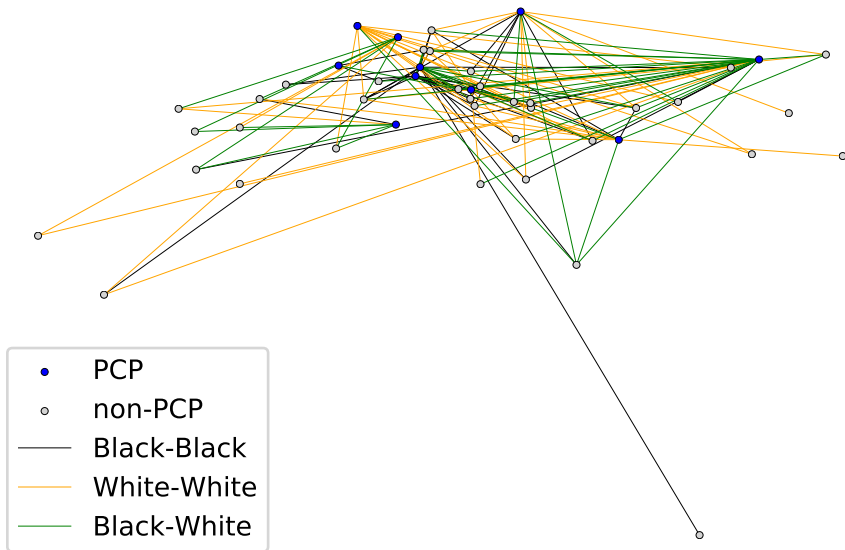
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183

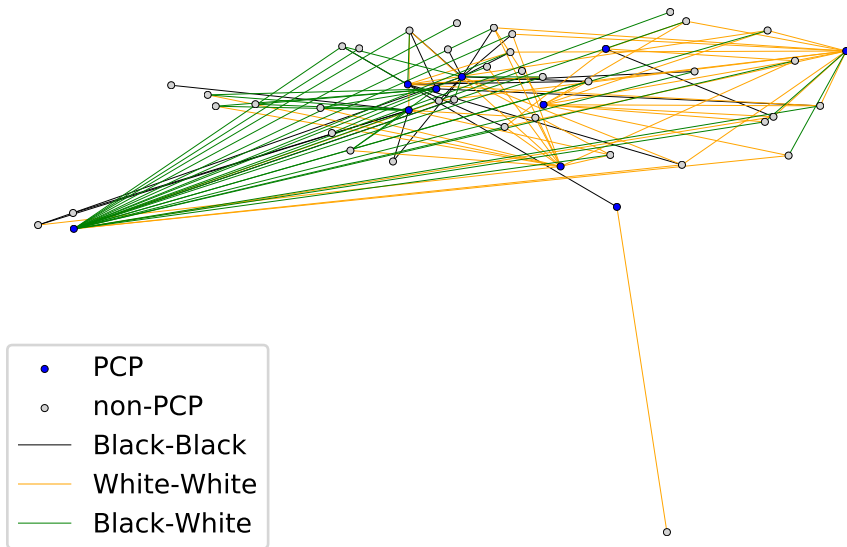
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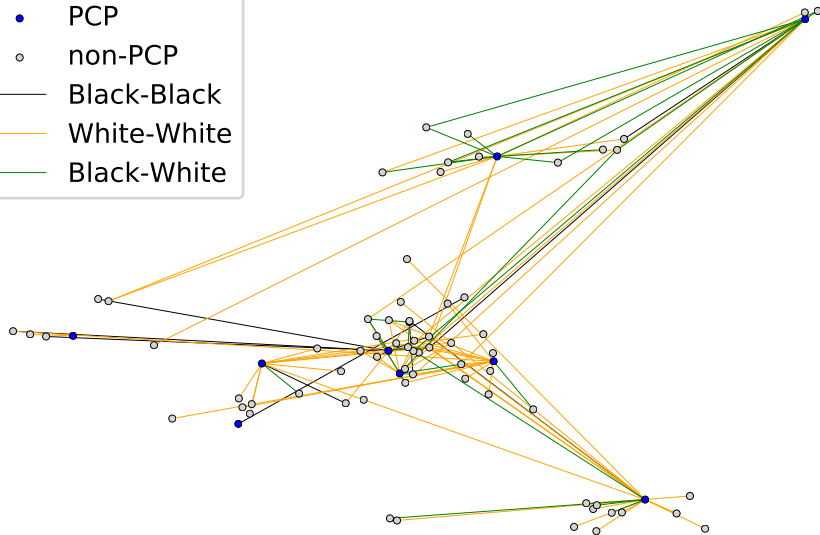
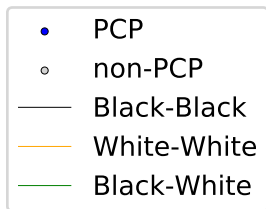
185

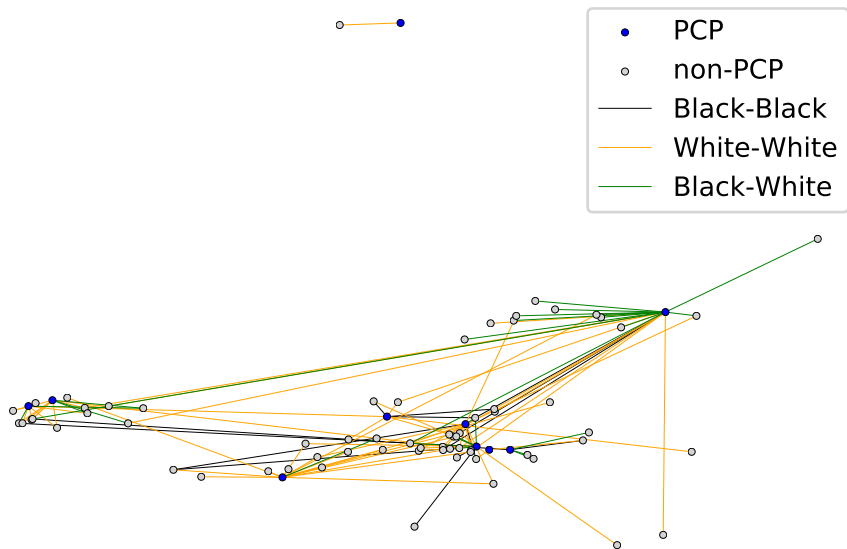
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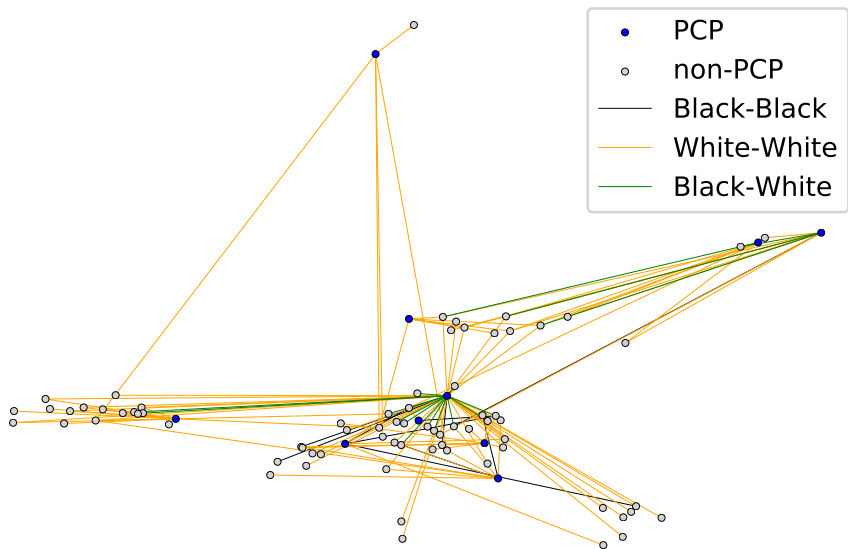


186

HRR: 11; Specialty: 1; Sample: 1

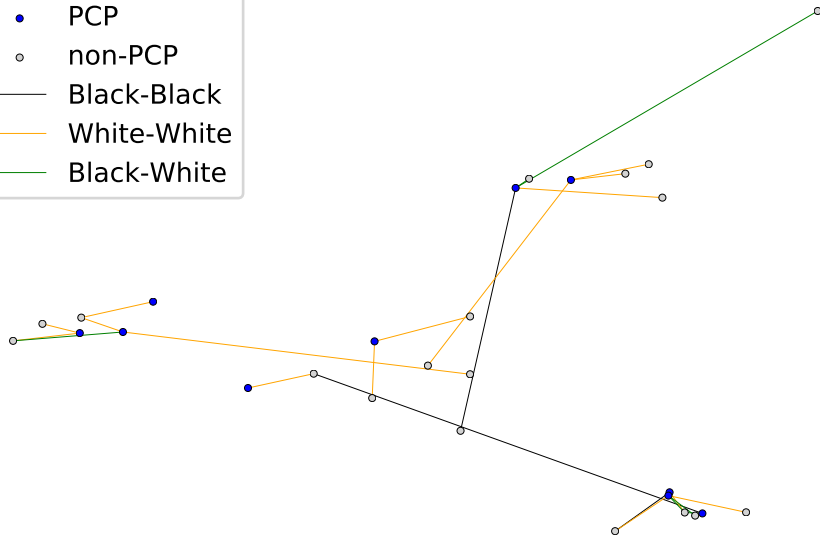
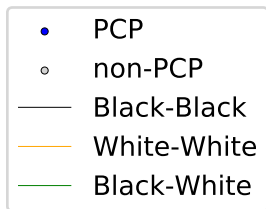






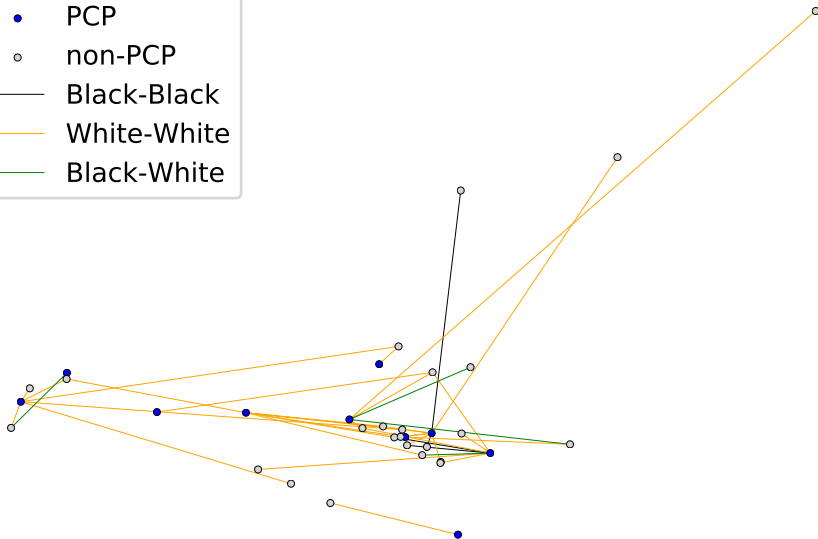
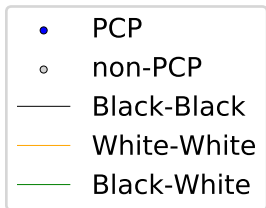
189

HRR: 11; Specialty: 2; Sample: 1



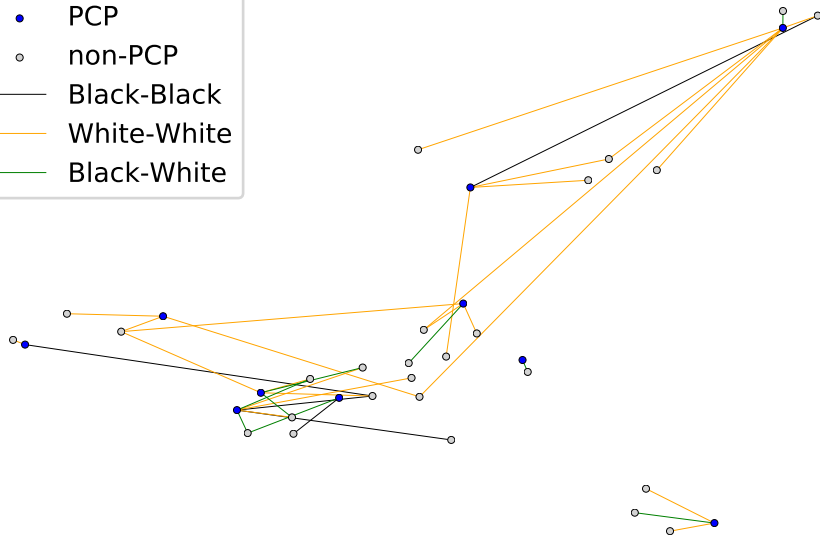
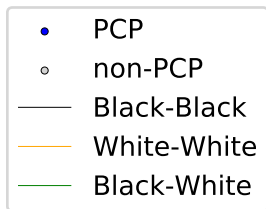
HRR: 11; Specialty: 2; Sample: 2

190



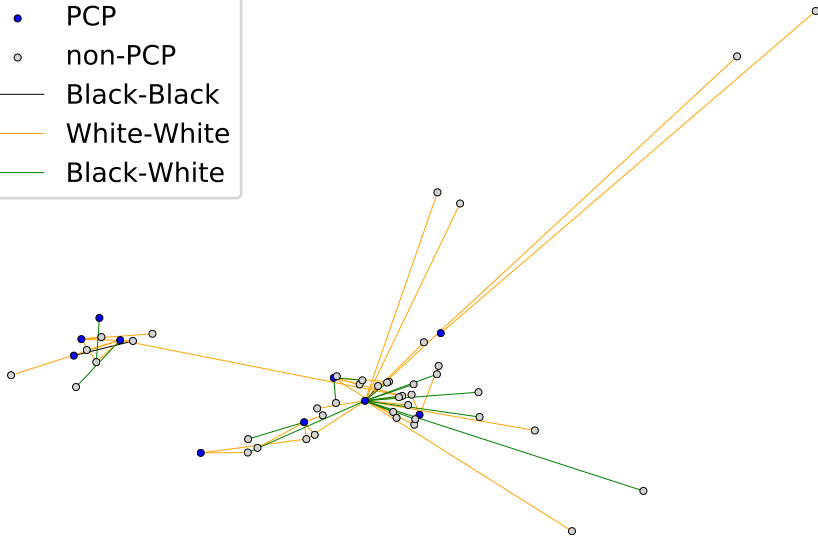
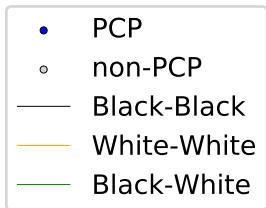
191

HRR: 11; Specialty: 2; Sample: 3



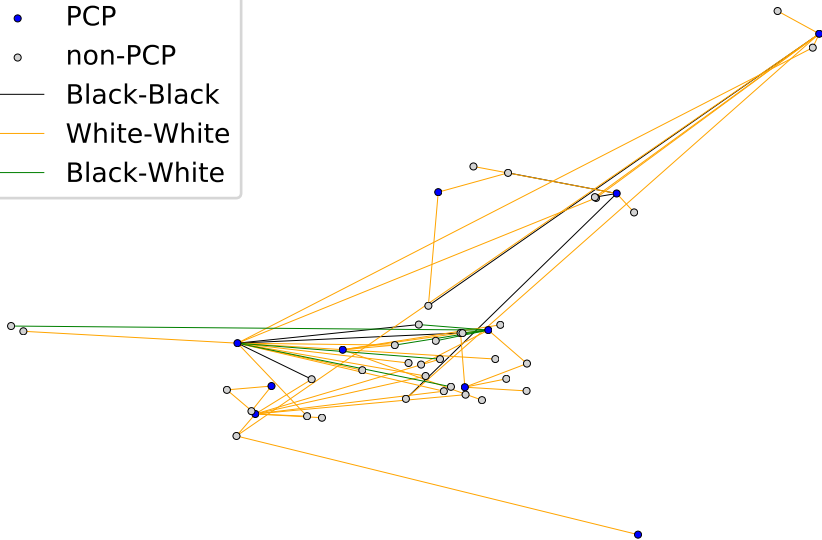
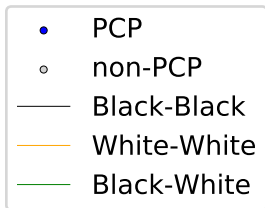
HRR: 11; Specialty: 3; Sample: 2

193



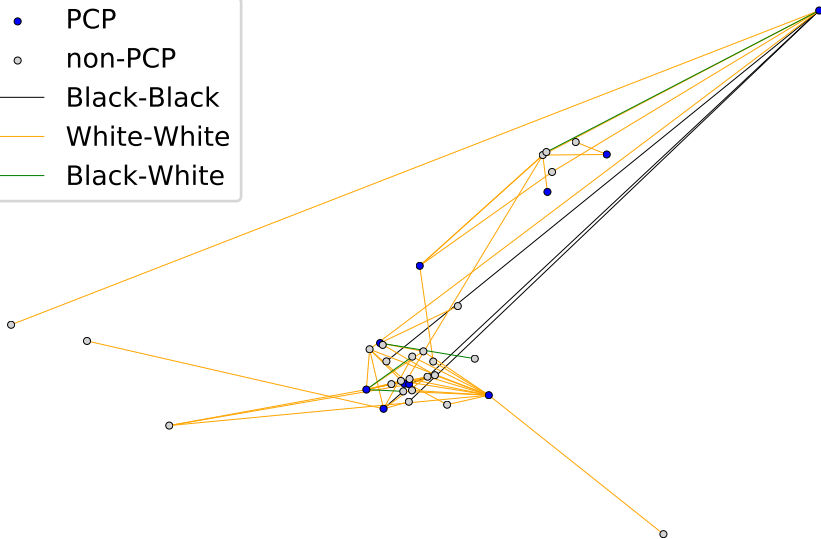
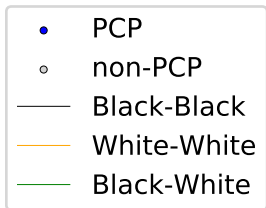
194

HRR: 11; Specialty: 3; Sample: 3



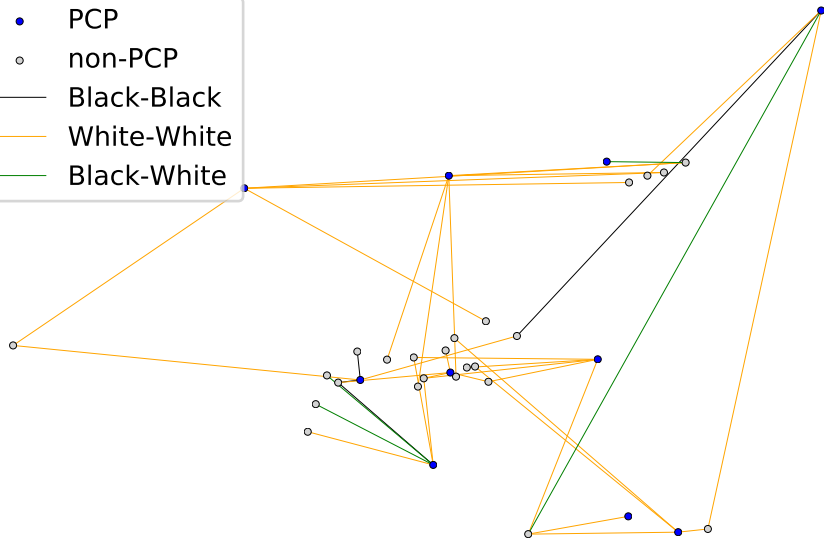
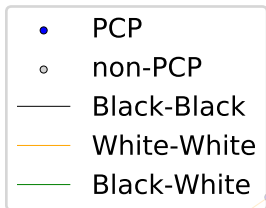
HRR: 11; Specialty: 4; Sample: 1

195



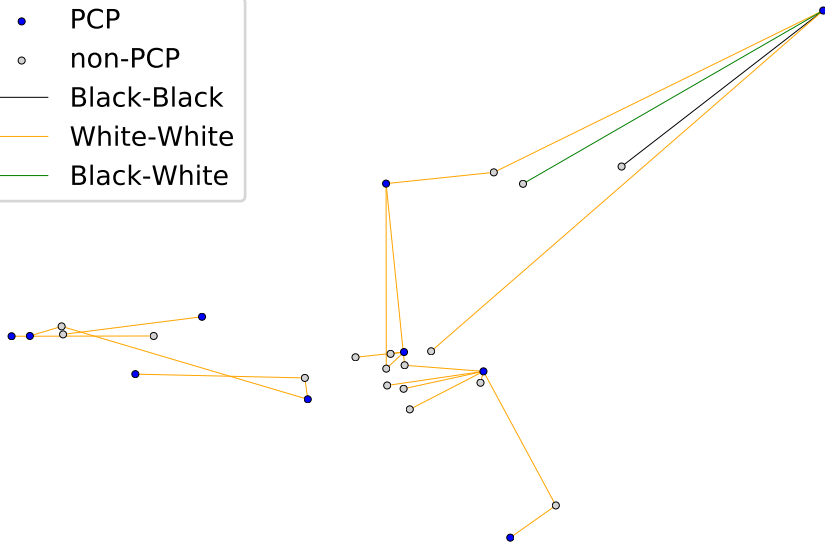
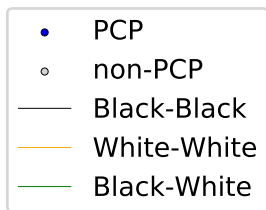
HRR: 11; Specialty: 4; Sample: 2

196



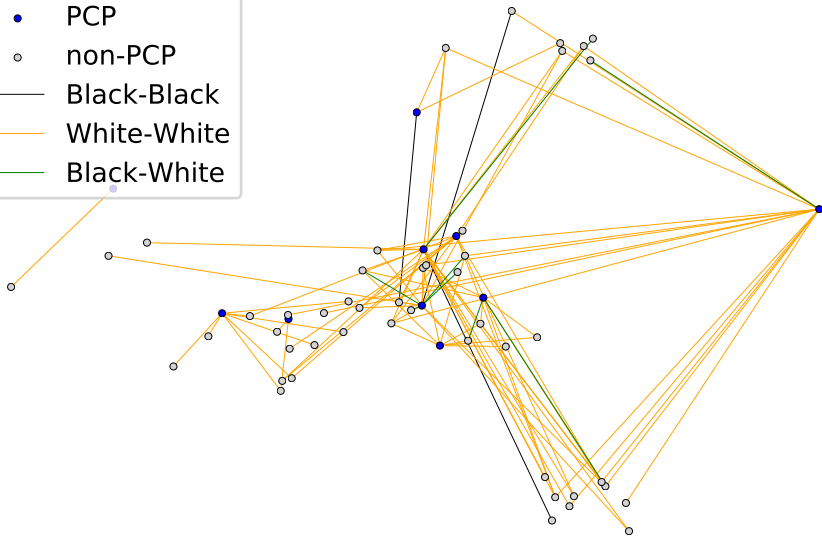
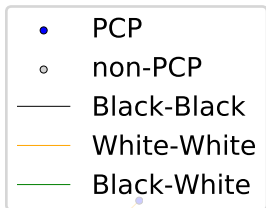
197

HRR: 11; Specialty: 4; Sample: 3



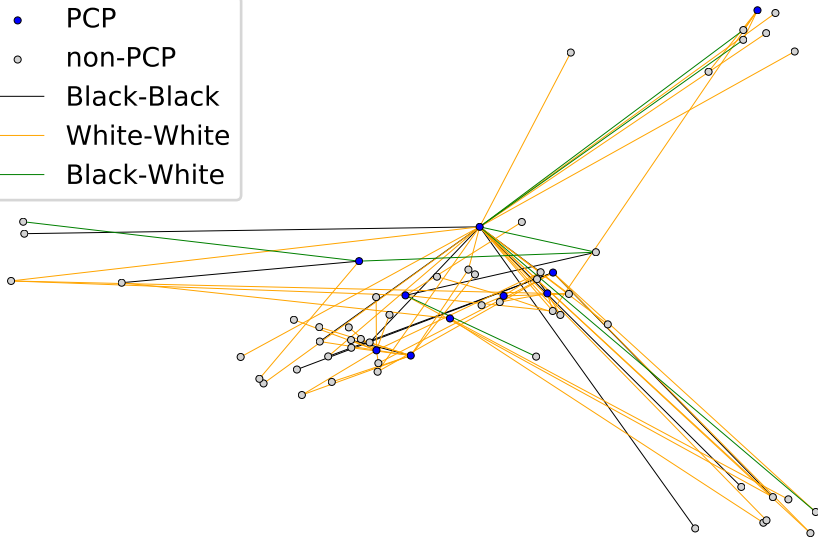
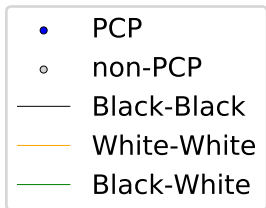
HRR: 11; Specialty: 5; Sample: 1

198



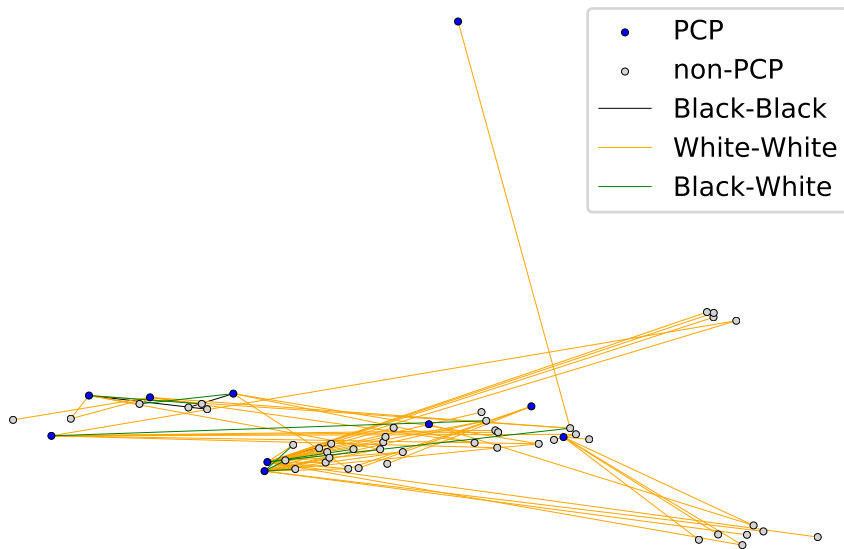
HRR: 11; Specialty: 5; Sample: 2

199



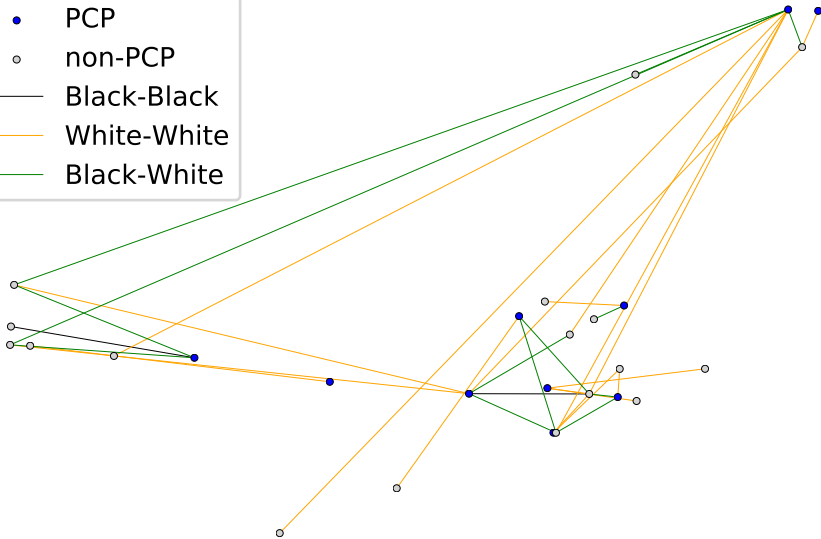
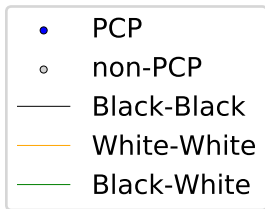
HRR: 11; Specialty: 5; Sample: 3

200



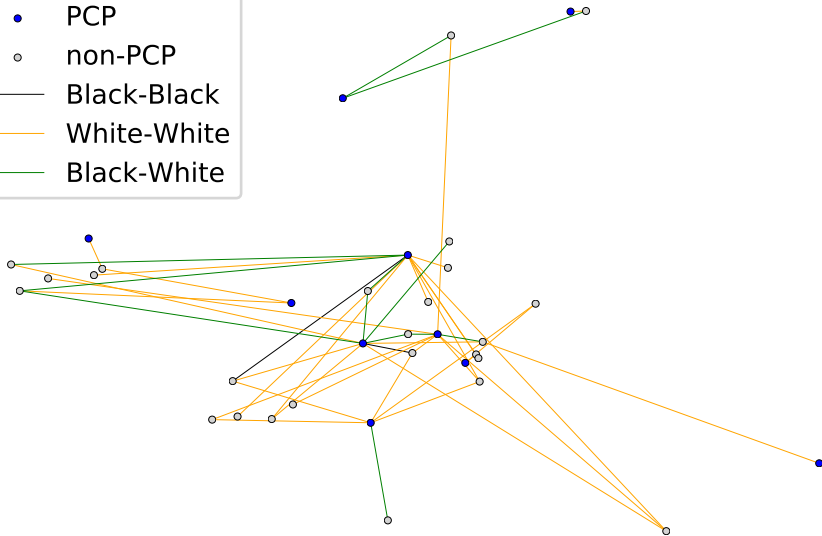
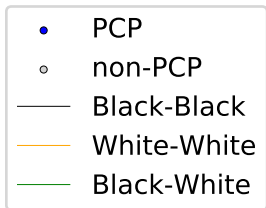
HRR: 11; Specialty: 6; Sample: 1

201



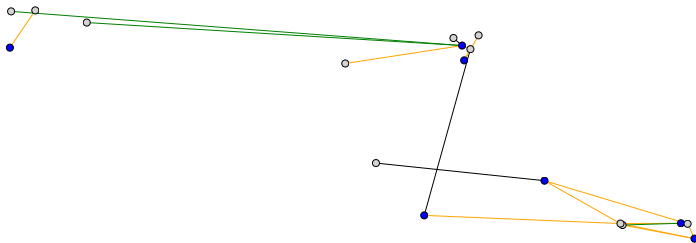
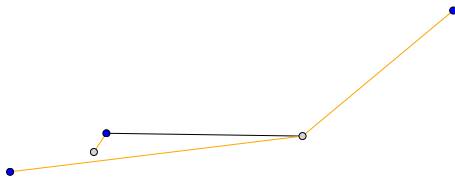
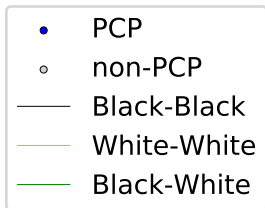
HRR: 11; Specialty: 6; Sample: 2

202



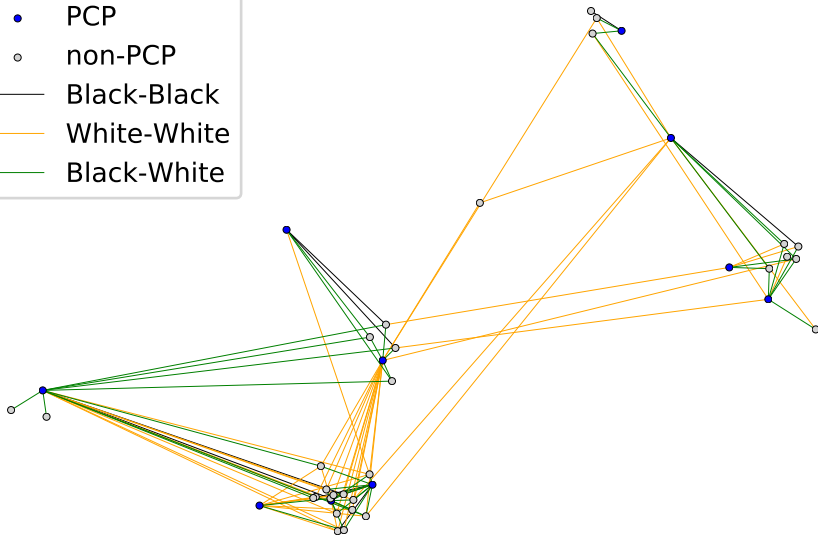
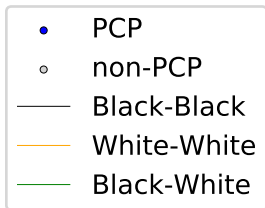
HRR: 11; Specialty: 6; Sample: 3

203



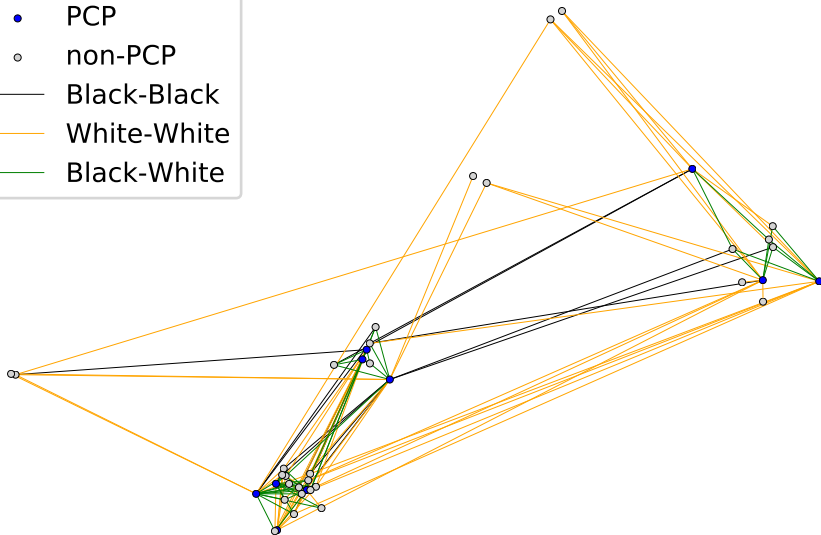
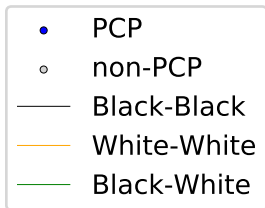
204

HRR: 12; Specialty: 1; Sample: 1



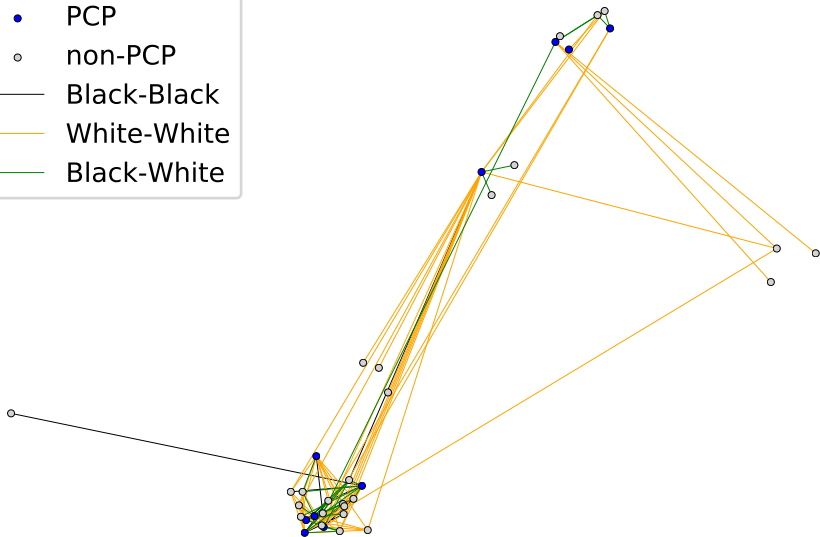
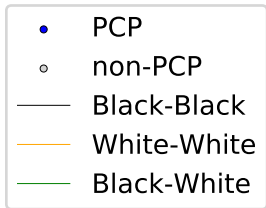
HRR: 12; Specialty: 1; Sample: 2

205



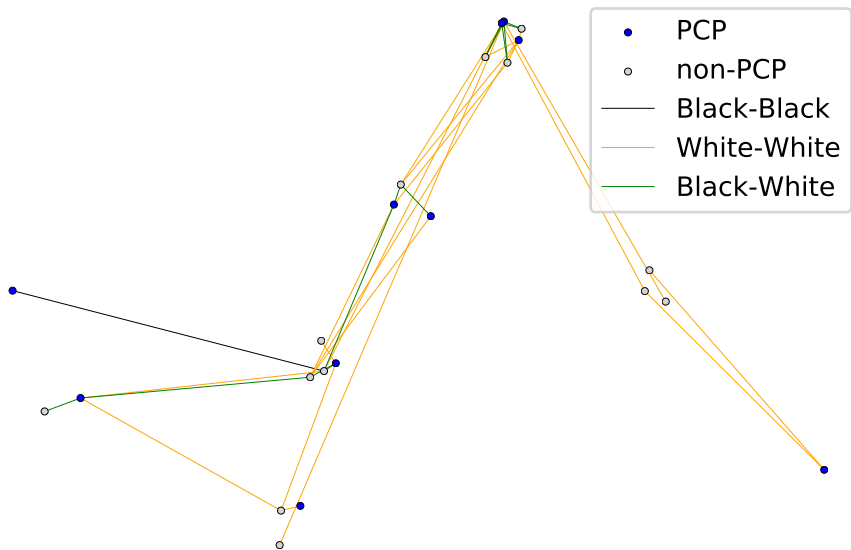
206

HRR: 12; Specialty: 1; Sample: 3



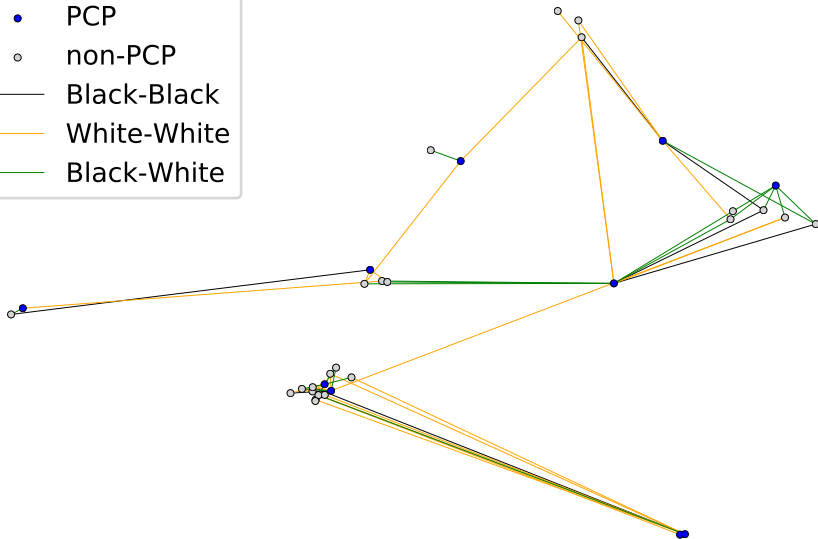
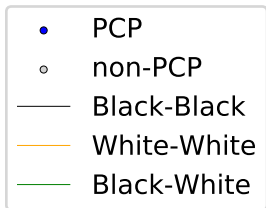
207

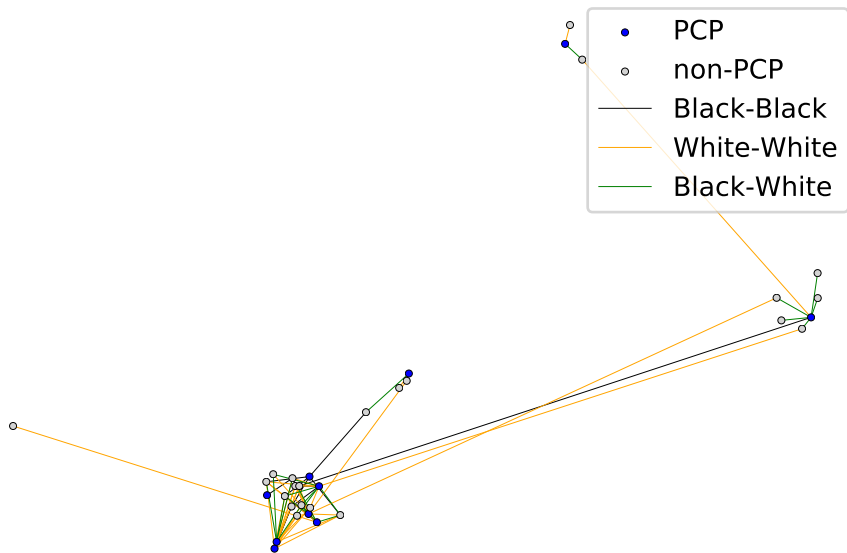
HRR: 12; Specialty: 2; Sample: 1

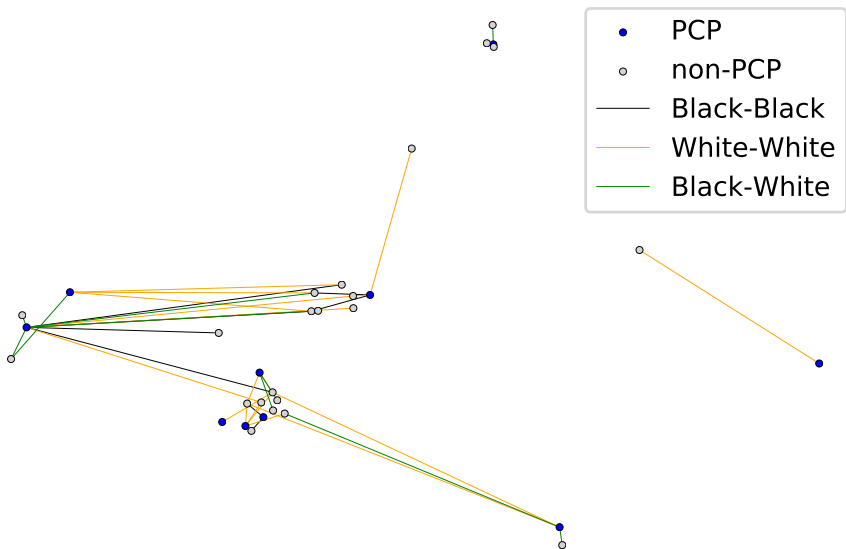


HRR: 12; Specialty: 2; Sample: 2

208

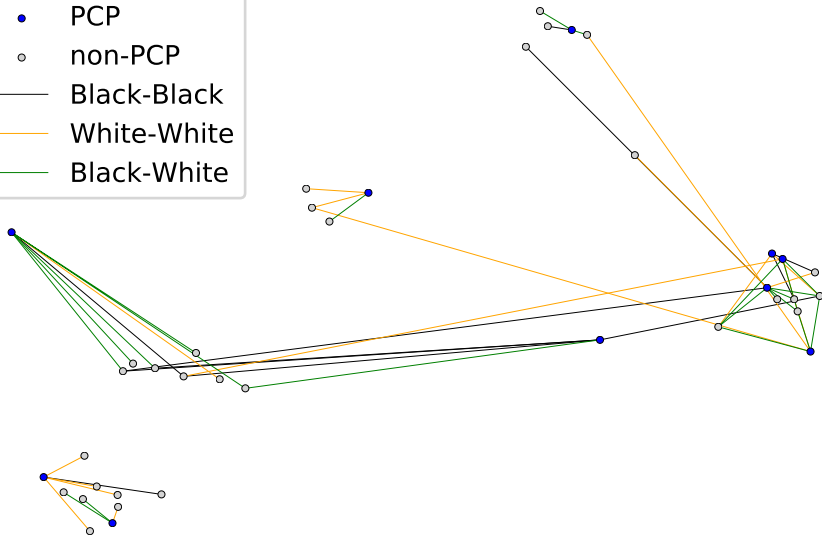
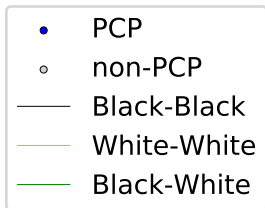


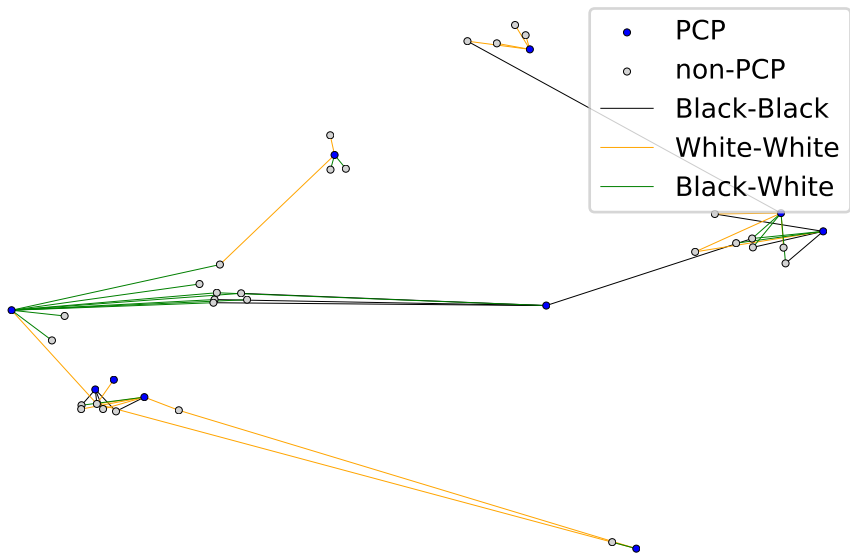


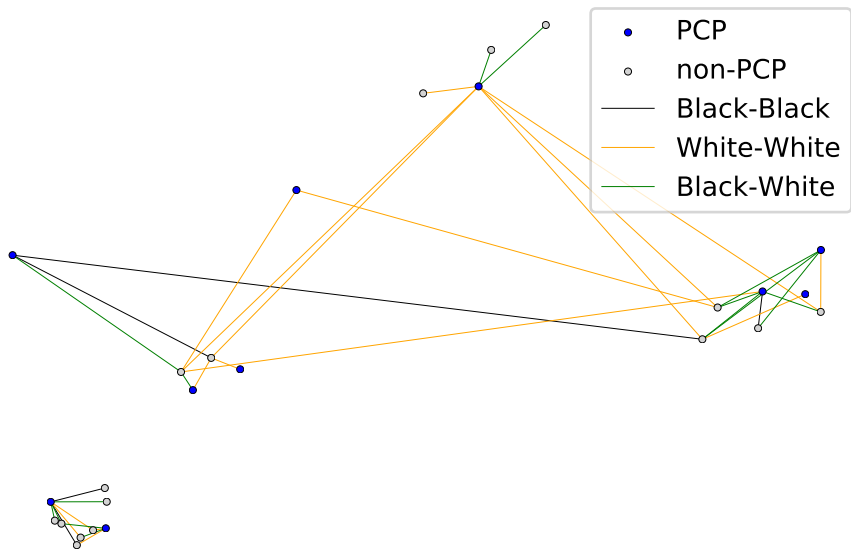


211

HRR: 12; Specialty: 3; Sample: 2

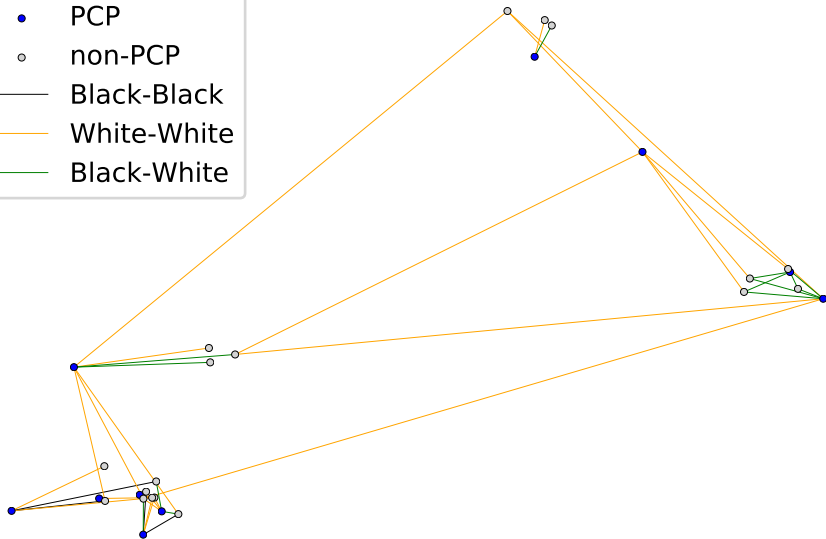
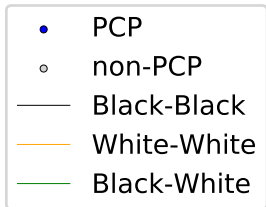






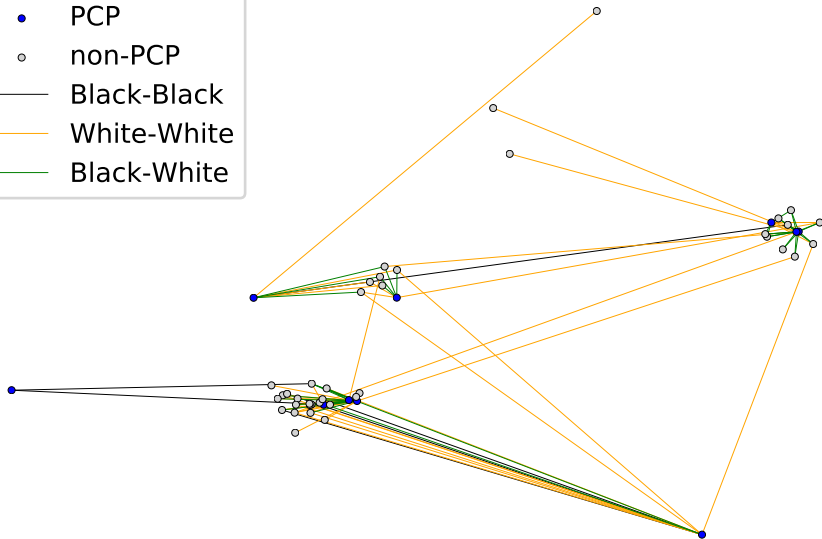
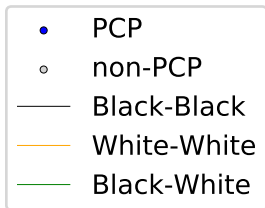
215

HRR: 12; Specialty: 4; Sample: 3



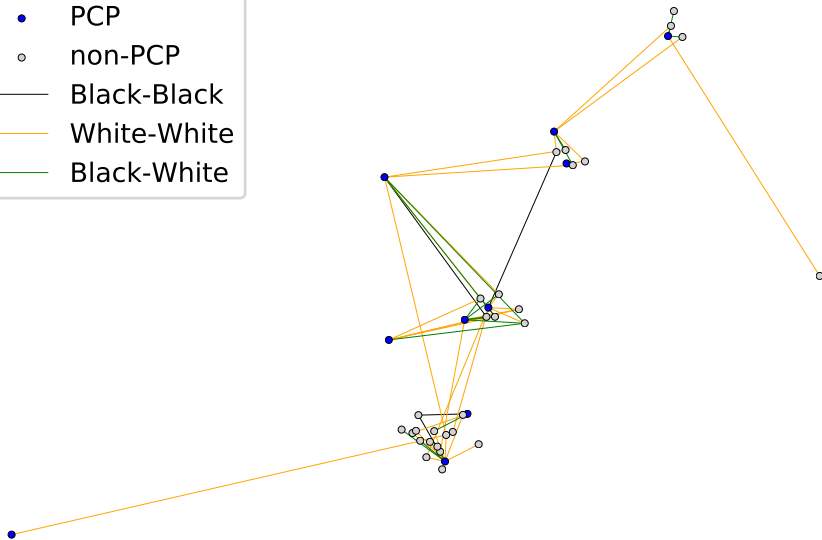
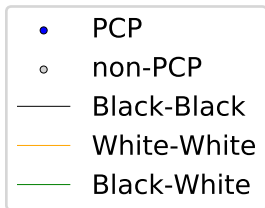
216

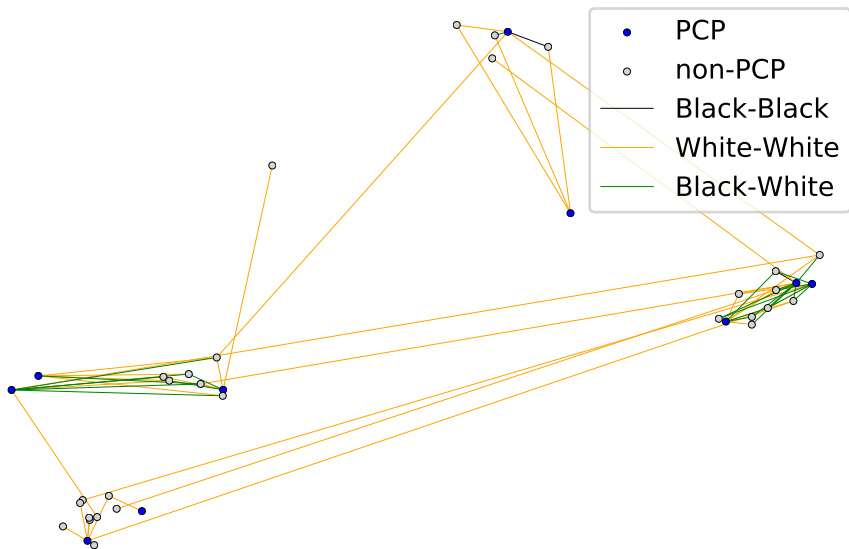
HRR: 12; Specialty: 5; Sample: 1



217

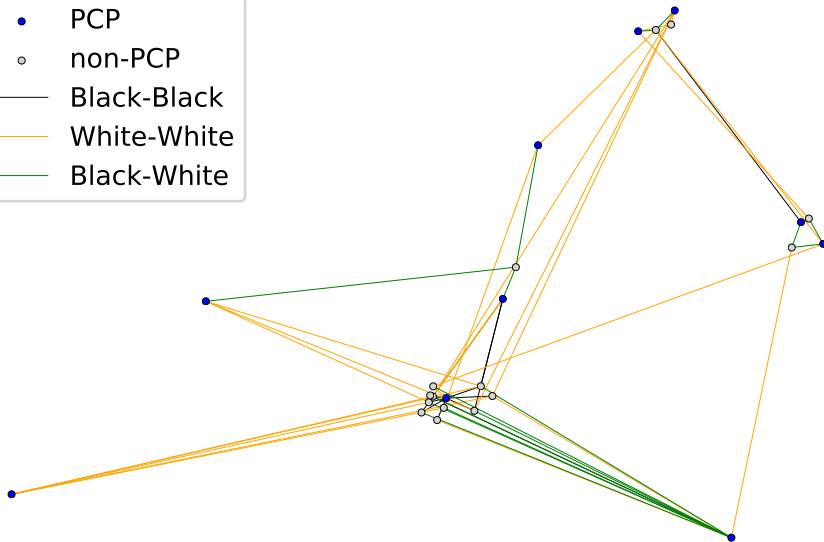
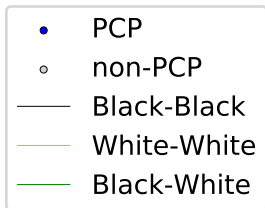
HRR: 12; Specialty: 5; Sample: 2





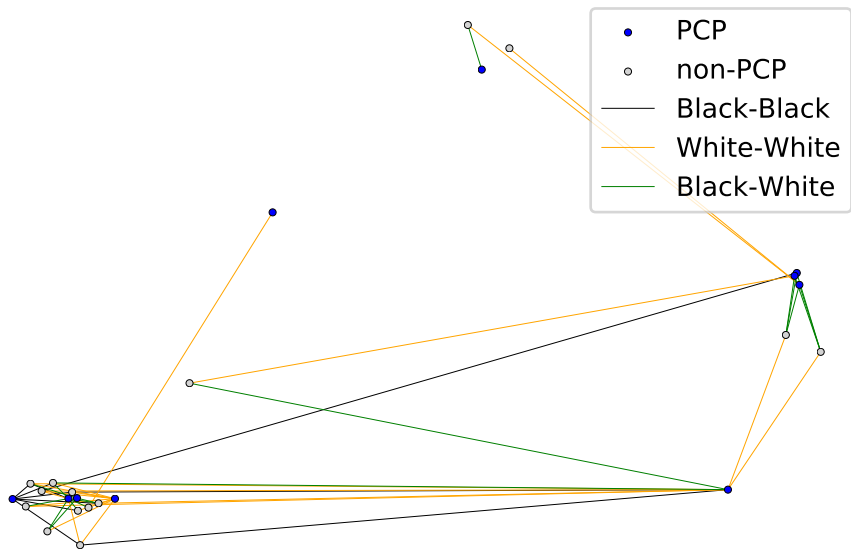
219

HRR: 12; Specialty: 6; Sample: 1



220

HRR: 12; Specialty: 6; Sample: 2



221

HRR: 12; Specialty: 6; Sample: 3

