First and foremost, we thank you for the positive reviews, and for taking your time to read and review our paper.

Response to reviewer #1:

- *"It would be helpful to write down Exp3 more explicitly"*:
  We will add a detailed explanation of Exp3 to the supplementary material.
- *"it would be helpful to spell out the proposed cooperative MAB algorithm explicitly"*:
  Our overall method is to run a partitioning algorithm (e.g. Algorithm 4) first, and use its result with the center-based policy (Algorithms 1 and 2). We will explain more clearly the interaction between the algorithms.
- *"authors might wish to sharpen/reword the following"*:
  We thank you for your rephrasing suggestions and we will implement them.
- *"Reorganize Sec. 3 and 4"*:
  We will reorganize the sections along the suggested lines.

Response to reviewer #2:

- *"convince me that the paper is very original in comparison with the paper of Cesa Bianchi et al."*:
  We completely agree the first part is a direct extension of [Cesa-Bianchi et al., 2019b], and is merely an introduction for what follows. Our main contribution is the graph partitioning methods, both in the informed and uninformed setting. Those methods are completely unrelated to the methods of [Cesa-Bianchi et al. 2019b], and they allowed us to solve the open individual regret problem from that paper.
- *"significantly improve the section 4.2"*, *"The part on the uninformed setting is neither clear nor complete"*:
  We will rewrite it more clearly and state everything explicitly. In addition, we will explain Luby's algorithm briefly in the main text, and also explicitly detail it in the supplementary material.
- *"We first need to be able to construct* $\left(G^2\right)_{|S_t}$*"*:
  We can run Luby's algorithm without explicitly constructing the graph, it just takes 2 steps to send a message instead of 1. As mentioned above, we will explain it in detail.
- *"Lemma 11, Theorem 12 ... only hold with some high probability"*:
  Lemma 11 and Theorem 12 indeed only hold with probability $1 - \frac{1}{T}$. We will mention that and add an explanation about it.
- *"Corollary 13 only hold with some high probability"*:
  This is not the case. Corollary 13 holds always (with probability 1), since we bound the **expected** regret. We will add a proof of this corollary to make it more clear.
- *"Algorithm 5 might return* nil *centers and* U*"*:
  We will explicitly state the case that Centers-to-Components returns nil.
- *"compare ... the difference in collective regret bound with the bound of Cesa-Bianchi et al"*:
  We stated in the paper (and we will add an explicit corollary to emphasize it) that we **strictly improve** Cesa-Bianchi et al. regret bound: our result implies theirs (asymptotically).
- *"Minor comments"*:
  We thank you for the suggestions and we will implement them. Specific comments:
  - *"Page 8, algo 5 line 2: why is there a* K *in the probability here?"*:
    To answer your question as to why $1 - \frac{1}{TK}$ is the probability in Algorithm 5: it is because there are K iterations, and we need the overall probability to be $1 - \frac{1}{T}$, so the expected regret would not increase.
  - *"it is here unclear whether we look at* $\left(G_{|S_t}\right)^2$ *or* $\left(G^2\right)_{|S_t}$*"*:
    We look at $\left(G^2\right)_{|S_t}$. We will change the notation to make it more clear.
  - *"replace* $|\mathcal{N}(v)|$ *by* $1 + |\mathcal{N}(v)|$ *... retrieve the known bound for Exp3"*:
    If you notice, we actually defined $\mathcal{N}(v)$ to include v itself, so we already retrieve the known bound for Exp3 like you suggested.

Response to reviewer #3:

- *"the non technical part require a thorough review in the camera ready version"*:
  We will polish and rephrase the less clear parts of the paper.
- *"it is stated ... the new bound implies the bound of Cesa-Bianchi. This should be explicit"*:
  We will add an explicit corollary and proof that we strictly improve the previous bound of Cesa-Bianchi et al..